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ENDANGERED SPECIES ACT: WASHINGTON, DC— PART III

HEARING BEFORE THE TASK FORCE ON THE ENDANGERED SPECIES ACT OF THE COMMITTEE ON RESOURCES HOUSE OF REPRESENTATIVES ONE HUNDRED FOURTH CONGRESS

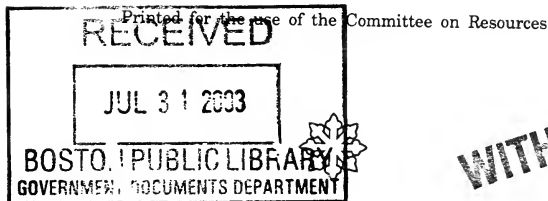
FIRST SESSION

ON

THE IMPACT OF THE ENDANGERED SPECIES ACT ON
THE NATION

MAY 25, 1995

Serial No. 104-18



WITHDRAWN

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1995

92-551cc

For sale by the U.S. Government Printing Office
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ISBN 0-16-047571-6

~~Y-1-1 76/10: S. HKS. 104-18~~
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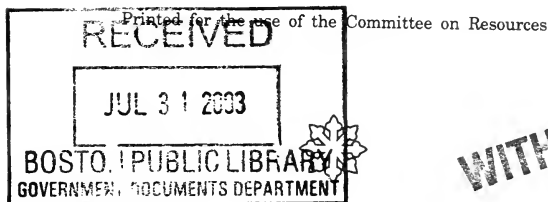
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ENDANGERED SPECIES ACT: WASHINGTON, DC—PART III

THURSDAY, MAY 25, 1995

HOUSE OF REPRESENTATIVES,
ENDANGERED SPECIES ACT TASK FORCE,
COMMITTEE ON RESOURCES,
Washington, DC.

The task force met, pursuant to call, at 12:05 p.m. in room 1324, Longworth House Office Building, Hon. Richard W. Pombo (chairman of the task force) presiding.

Mr. POMBO. Good morning. We are going to call the Endangered Species Act Task Force to order.

STATEMENT OF THE HON. RICHARD POMBO, A U.S. REPRESENTATIVE FROM CALIFORNIA, AND CHAIRMAN, TASK FORCE ON ENDANGERED SPECIES ACT

Mr. POMBO. I would like to—well, I guess it is afternoon now. I would like to welcome all of you to this hearing today of the ESA Task Force of the Committee on Resources. This is the 10th and final hearing of the task force, and with this hearing we complete the most comprehensive congressional investigation and review that has ever been undertaken on the Endangered Species Act.

We have invited several officials from the Interior and Agriculture Departments responsible for administering the act. We have also invited two panels of individuals with scientific and technical backgrounds and knowledge who will testify on the scientific underpinnings of the act. We will also be joined later today by the Speaker of the House, the Honorable Newt Gingrich.

Over the course of the past three months, the task force has held seven field hearings from coast to coast and three more here in Washington, D.C. There has been tremendous public interest and participation in the hearings. We have held more field hearings in 1995 than all the previous 22 years since the act was signed into law.

Over 100 witnesses testified at the seven field hearings. Three-fourths of them had never testified before Congress and had their first opportunity to speak directly to a panel of lawmakers. In total, 154 people will have spoken at the 10 hearings.

More than 8,000 people attended the field hearings, for an average attendance in excess of 1,000 per hearing.

Twenty-five Members of Congress participated in the bipartisan field hearings, including seven Democrats and 18 Republicans.

Over 5,000 citizens have written to the task force, making suggestions for reform and improvements in the Endangered Species

Act. Their correspondence fills several large boxes and weighs over 127 pounds.

When the Endangered Species Act was first adopted by Congress in 1973, only three hearings were held on the legislation, all of them in Washington. In the 22 years since, only three hearings were held outside Washington, D.C., before the creation of this task force.

The real lessons that we are learning through this process is the importance of continuing to rely on the democratic ideals upon which our government was founded. Our Constitution and our form of government are as relevant and essential today as when it was adopted in 1788. Our Bill of Rights ensures that the rights of every individual American are protected, even against the will of the majority if the majority goes too far. One of the key elements of the Bill of Rights is the protection of private property from confiscation for government use, without the payment of just compensation, no matter how important or essential that government use may be.

Today we will hear from a number of individuals who have been involved in various scientific issues surrounding the Endangered Species Act. While I agree that it is important to consider the views of scientists and that science is one of the key factors in this debate, it is our job to ensure that science is not used as an excuse or a basis for trampling on the constitutional or legal rights of any individual. While our wildlife and plants have enormous value, so do our civil and constitutional freedoms.

It is important that science provide us with good information for making public policy, but the public policy has limits. Those limits include how to best use the taxes we pay, how to meet other equally important needs and how to protect the civil rights of our people.

We hope that the scientific community will meet the challenge of improving the information that we base our decisions upon, and we also hope that we will include in their deliberations some concern for protecting the foundations of our democracy.

Thank all of you for your participation, and I look forward to your testimony today.

I would at this time like to recognize the Ranking Member, Mr. Studds.

**STATEMENT OF HON. GERRY E. STUDDS, A U.S.
REPRESENTATIVE FROM MASSACHUSETTS**

Mr. STUDDS. Thank you very much, Mr. Chairman.

I would like to begin with an apology and explanation. I am going to have to leave right after—quite possibly during my opening statement. We have a very major markup going on simultaneously across the street; and, thanks to our reforms, there is no such thing as proxy voting. So I will get back as often and as quickly as I can.

I would like to begin with a quotation, if I may: "Various species of fish, wildlife and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation. These species of fish, wildlife and plants are of aesthetic, ecological, educational, historical, recreational and scientific value to the Nation and its people."

Those words were written 22 years ago as part of the congressional findings in an Endangered Species Act which enjoyed broad bipartisan support and was signed into law by that renowned ecoterrorist, Richard Nixon.

Those words express the collective concern of this Nation's citizens, its Congress and its President about the alarming rate of species decline throughout the world. And those words, I am sorry to say, ring no less true today.

There are now 700 species of plants and animals which are threatened or endangered. Hundreds more are in decline, and I hope it doesn't mar my reputation as an irrepressible optimist to report that we are approaching the rate of mass extinction as ominous as that witnessed by the dinosaurs. That period of devastation left behind the *Tyrannosaurus Rex* skull, now displayed in the office of our Speaker, the very same Speaker incidentally who, as I think you know, last session cosponsored Mr. Dingell's and my reauthorization act, and I await with great interest what he has to say.

Unlike in the cretaceous period, however, this time the cause of extinction is human. We have all heard horror stories about the regulatory overreaching of the act. They should begin our review of the act, not end it. As we recoil from tales of a Federal tree hooking conspiracy, we should not lose sight of the volumes of horror stories of the ESA that Richard Nixon and John Dingell drafted to avert.

Massachusetts settlers once wrote in their journals that they could almost walk across Cape Cod Bay on the backs of the white whales that fed and nursed their calves in those waters. As we all know, North Atlantic white whales were later slaughtered by the thousands, and their habitat and food sources have been spoiled recklessly and continuously. Now, even after decades of protection from hunting, there are fewer than 350 in the entire world.

There was also a time when you could stand at the banks of the Snake River in the Northwest and watch it turn blood red as thousands of sockeye made their way from the ocean up to their spawning grounds. From that same bank today, you would be lucky to spot one of the few remaining fish.

Salmon evolved throughout drought, el ninos, predators and the arduous journey upstream, but their genes never developed sufficiently to avoid hydropower turbines.

Preserving the whale or salmon in our own land is no less dramatic for anyone with even a fleeting appreciation for diversity on this earth in saving a snow leopard in the Himalayas or a mountain gorilla in Rwanda.

At our recent hearings, I made some observations about the tone of the ESA debate, but that is not the whole story. The substantive questions on the table before us are deadly serious. It is our job to decide quite literally what life is worth—not a single life, but the future of entire species.

Nearly everyone on this dais and on both sides of the partisan aisle opposes gutting the act, but what precisely does that mean? Whose life is worth how much and by what measure? How do we calculate the costs—economic, recreational, spiritual and environmental—of failing to save species from extinction? It is no illusion

that those questions sound metaphysical. That happens when you start talking about potential cures for life-threatening diseases and about humility before matters of cosmic proportions.

But if you think these are mindless abstractions, I would be happy to introduce you to the captains of boats in my district's million-dollar-a-year whale watch fleet and presidents of local chambers of commerce who believe passionately that the environment is our economy as well as our solemn responsibility.

Throughout this debate, colleagues on all sides have stressed the need for the best available science. I agree. That is why three years ago, along with Senator Hatfield and then Speaker Foley, who were themselves a bit stressed by a certain spotted nocturnal creature, we all together asked the National Academy of Sciences to review the scientific foundations of the ESA, which still preoccupy this task force, including recovery efforts, definition of species and habitat protection.

That study, released yesterday, concludes that the only way to prevent extinctions is to protect the natural habitat of threatened and endangered plants and animals. Its analysis can help us distinguish matters of science from matters of policy and to distinguish fact from anecdote.

We will hear testimony shortly from one of the study's authors who, I suspect and hope, will summarize the 162 pages of that report. If we listen and if we learn, I think we can all leave today's hearing a little better informed and perhaps a little wiser.

Thank you, Mr. Chairman.

Mr. POMBO. Thank you.

With unanimous consent, I would like to include all other opening statements in the record and introduce our first panel of witnesses.

[The statement of Mr. Duncan follows:]

STATEMENT OF HON. JOHN J. DUNCAN, JR., A U.S. REPRESENTATIVE FROM
TENNESSEE

I do not think that there is one Member of Congress who wants to see any life form become extinct. However, many of us recognize that there is a vast array of species, including humans, which must occupy a limited amount of space.

Currently, there are over 900 species listed as endangered or threatened in the United States.

If you rank States according to the number of species that each has, my State, Tennessee, ranks 5th. There are 84 listed species in Tennessee. That is almost one species for each county in our State. There are another 213 species which are being considered for listing. If all these species are ultimately listed that would mean that each county in the State, on average, would have three listed species.

Even here in the District of Columbia there are three species listed as threatened or endangered.

Through hearings held in the Resources' Subcommittee on Parks, Forests, and Lands, we have learned that the Federal Government owns 30 percent of all the land in the United States.

It has been estimated that State and local governments own another ten percent of all the land in the U.S. Quasi-government entities own an additional nine percent.

I have not been able to find any estimate on what percentage of land is undevelopable because it is set aside as critical habitat for listed species. However, a recent report released by the Government Accounting Office stated that 90 percent of all species are found on non-Federal lands.

If State, local, and Federal governments own 50 percent of all the lands in the U.S., and when we consider all the land that is set aside for species habitat and wetlands preservation, then there is very little land for development. Furthermore,

the land which is left for development is so expensive that the average American family starting out cannot afford to purchase a piece of property to build a home.

In the Parks Subcommittee, we try to encourage private individuals or organizations to preserve what they feel should be preserved because the Federal Government can no longer afford to create new parks.

People can and will preserve our lands without a government mandate. For example, one of the most important historic sites in the country, Mount Vernon, has been preserved and is operated by a private organization. There are many others like The Alamo in Texas and the Biltmore House in North Carolina.

It is my understanding that there are no incentives in the Act to encourage private individuals or organizations to preserve species. As the Act is administered, individuals are punished through regulations by having a listed species on their property. I believe we need to amend this Act in such a way that we provide private property owners with incentives to save endangered species, not threaten them with regulatory measures which devalue their land.

We are all aware of the impacts that listing the spotted owl had on the Pacific Northwest. However, incidents such as this occur in the East.

For example, my colleague from West Tennessee, Congressman Ed Bryant, testified before the Endangered Species Task Force about the Duck River Dam in Columbia, Tennessee.

In his testimony, he noted that the Tennessee Valley Authority began construction on the dam in 1973. Since 1972 the people in Columbia Tennessee, have paid a total of \$4.5 million in a surcharge that was placed on their water to help complete the dam. By 1983, TVA spent \$84 million and had completed 90% of the concrete portion of the dam when a species in the river was listed, and the project was stopped. I think it is ridiculous that taxpayer dollars are wasted in this manner.

Not only does this Act cost taxpayers millions of dollars through regulations, the recovery programs for species are increasingly expensive. For instance, the U.S. Fish and Wildlife Service plans to spend \$70.2 million to help the blunt-nosed leopard lizard "recover." The agency has other recovery plans such as \$85.9 million for the loggerhead turtle; \$53.5 million on the black-capped vireo and \$29 million on the swamp pink. Even though we are spending all this money, not one species has been recovered and delisted as a direct result of this Act.

I believe that we need those who are responsible for the administration of this Act to carry out their duties in such a manner that they are considerate of taxpayer funds and more respectful of the average landowner.

As I have said many times, the key to protecting the environment is balance. We must develop a strategy that balances the goals of environmental protection with requirements for economic stability. I believe that there is a balance that can be achieved in our search for an effective environmental policy if we are willing to find it.

It is my sincere hope that we can amend this Act to provide a more balanced approach to species preservation.

Mr. POMBO. We have Mr. George Frampton, the Assistant Secretary of Fish and Wildlife in the U.S. Department of Interior; Roland Schmitten, Director, National Marine Fisheries Service; David Unger, Associate Chief, Forest Service; and Thomas Kourlis, Commissioner of Agriculture, State of Colorado.

Mr. Frampton, you may begin.

And before you start, you guys have seen the lights before. We want to try to stay within the five-minute time period. Green, go; yellow, hurry up; and red, stop. And if you could try to stay with that as much as possible, I would appreciate it.

Mr. Frampton.

STATEMENT OF GEORGE T. FRAMPTON, JR., ASSISTANT SECRETARY, FISH, WILDLIFE AND PARKS, U.S. DEPARTMENT OF INTERIOR, ACCOMPANIED BY MOLLIE BEATTIE, DIRECTOR OF THE U.S. FISH AND WILDLIFE SERVICE; AND CHRISTINE JAUHOLA, GROUP LEADER FOR WILDLIFE, FISHERIES, RANGE LAND AND FOREST LAND, FOR THE BUREAU OF LAND MANAGEMENT

Mr. FRAMPTON. Thank you, Mr. Chairman.

I have submitted a lengthy statement for the record detailing the actions that the Administration has taken over the last two years to try to make the Endangered Species Act work better for species and the regulated public.

To summarize, we think that the underlying purposes of this act, to protect imperiled species and habitats and biodiversity, are important American public purposes and enjoy broad public support.

We also think the Endangered Species Act itself has worked well in many, if not most, cases, that it has been successful in preventing species from going extinct and moving other species toward recovery. We know that the Endangered Species Act has problems, problems in terms of certainty and equity, predictability, and problems in terms of its effectiveness in protecting species as well.

We think that we have moved, under the existing law, with regulations and policies and strategies to solve some of those problems. Other problems require changes in the law, and we have put on the table a menu of amendments to the Endangered Species Act we think will allow us to carry that program out.

I think probably it is fair to say that the place where the Act has worked the best in the last 15 years or 20 years has been in its direction to Federal agencies to work together to make sure that their projects and programs avoid causing extinction.

You look at the last five-year period in which this was studied, of nearly 100,000 formal and informal consultations under section 7, only several hundred jeopardy opinions resulted and only about 50 projects or programs, 1/20th of 1 percent, actually were withdrawn or stopped, which means that the agencies have adjusted in their planning processes.

Where the Act hasn't worked well in terms of Federal agency actions has been where the agencies have not followed their own laws and/or not worked together. The Pacific Northwest is a paradigm where the result of both of those happening was that the Federal timber program went into court receivership for several years.

In that respect, I think this Administration has made the Act work better because we have caused agencies to work together. The President's forest plan is an example. In south Florida, the State with the second largest number of endangered species, there is remarkable State-Federal-private cooperation. In the San Francisco Bay Delta, with which some Members of the task force are familiar, it was getting four Federal agencies to work together on a water and endangered species set of issues that caused the State, then the agricultural users, the municipal water users and the environmental community all to come together.

I think where we have been able to do some work, but not enough under the existing law, is in involving State and local governments more. We can do a lot under the existing Act. The best

example is the NCCP process in southern California. The Fish and Wildlife Service basically delegated to counties and local governments, working with developers and environmentalists, the opportunity to do multi-species plans, basically planning the habitat and open space for the area—much of the area between L.A. and San Diego—for the next hundred years, and the promises of the plan is minted—the Federal Government walks away and takes the Endangered Species Act away.

We can do more to involve the States and local governments, though; and we have proposed a series of changes to the Act that would do that, including allowing States to develop their own conservation plans in exchange for removing the effect of listings of individual species.

Where the Act has perhaps not worked as well is with respect to private land, and we have basically adopted and are recommending some changes to the law to help us further two strategies for private landowners. For small private landowners, we are proposing exemptions, in most cases, from the Act. We will have in the **Federal Register**, I hope within the next week or 10 days, a proposal for a generic exemption for most species for residential homeowners and those that want to develop five acres or less.

Sometimes, for some species, we can do more. In the Pacific Northwest, we proposed an 80-acre exemption for timber landowners.

For large landowners, we have basically pioneered the idea of using voluntary multi-species agreements with timber companies in the States of Oregon and Washington. We have done the same thing in the Southeast with almost a dozen timber companies, trying to basically substitute for a species by species regulatory act a multi-species planning process that provides real certainty.

And, finally, I think we made sure that science is brought to the Act with peer review of listings. The National Academy report I think affirms that the Act is based on good science. That doesn't mean, however, that some additional changes can't be made in areas like the petition process.

Overall, Mr. Chairman, we think that the Act is working. We think it has been successful. We think it needs fixes. We think we are making some of those fixes under existing law, and we would like to join with you in a solid reform program to make some changes in the Act that respond to the problems we can't fix under existing law.

Let's make this Act work better for species but certainly better for the regulated public as well. Thank you.

Mr. POMBO. Thank you.

[The statement of Mr. Frampton may be found at end of hearing.]

Mr. POMBO. Mr. Schmitten.

STATEMENT OF ROLLAND SCHMITTEN, DIRECTOR, NATIONAL MARINE FISHERIES SERVICE, U.S. DEPARTMENT OF COMMERCE

Mr. SCHMITTEN. Thank you very much, Mr. Chairman and Members of the task force. I am Rolland Schmitten, the Assistant Administrator for Fisheries, and I do very much appreciate this oppor-

tunity to present our views on the reauthorization of the Endangered Species Act (ESA) and our implementation of that Act. I have submitted written testimony, but in deference to the many other speakers, I would just simply like to summarize that testimony.

On a personal note, I have been directly involved in the natural resources management of our country for the last 24 years. That includes timber, fish and wildlife. The last 15 years I have served as the State Director of Fisheries, the Northwest Regional Director of National Marine Fisheries Service and, the past year-and-a-half, as the Assistant Administrator. I have had firsthand knowledge and experience in the implementation of the Endangered Species Act.

As a resource manager, I would like to state that the Endangered Species Act is our only hope of preserving a rich national biological heritage. In my discussions with other resource managers from around the world, the ESA is often used as a benchmark for species preservation that other countries aspire to.

But there have been many lessons learned in the past 22 years since the passage of the Act, and it is appropriate that the Administration and Congress look for ways to improve the effectiveness for both species and mankind.

The Act designates both the Secretaries of the Interior and Commerce or their designees, the U.S. Fish and Wildlife Service and National Marine Fisheries Service, for implementing the Act. The agencies have strived to be consistent in their administration of the Act. Just over a year ago we issued a joint policy on key aspects of the listing, consultation and recovery. But there also are some unique differences between our agencies in their administration of the ESA.

The National Marine Fisheries Service has jurisdiction for all marine fishes, most marine mammals—the exceptions are polar bear, sea otters, manatees and walrus—and, through a 1976 MOU, the management of anadromous stocks. Those are fish that live their life in salt water and spawn in freshwater, the most famous being salmon and steelhead. The management for those species rest with the National Marine Fisheries Service.

On the other side, Fish and Wildlife has responsibility for plants, terrestrial species and freshwater fish, plus the four marine mammals that I noted. A uniqueness—we have jurisdiction of sea turtles in their marine environment, and Fish and Wildlife has jurisdiction on the nesting beaches.

Of the 855 species that are currently listed, my agency manages 29. We had 30 until last year, and we have delisted the gray whale. Further, our species, with the exception of Northwest salmon and shortnose sturgeon, are located in the marine environments, the oceans, and generally have minimum impact on private lands.

Even though we manage such a small fraction of the total listed species, many of these species are extremely significant culturally, aesthetically, biologically and even economically. They are species that man can closely identify with and often create intense public interest, and they include seven species of whales, nine other marine mammals, six sea turtles, four salmon stocks and three other fish species..

Since most of my ESA experience deals with Northwest listed salmon, let me just describe those listings, how we implemented the Act and the lessons learned, because I think from that we can all shape how we can improve this Act.

In 1985, 16 years after the passage of the Act, we received the first listing for anadromous stock. That was to list the Sacramento River winter run chinook. That was followed in 1990 with four petitions to list salmon stocks in the Snake and Columbia River. And, since 1992, we have received petitions to list in excess of well over 100 salmon and steelhead stocks.

And accustomed to dealing in a collaborative fashion with States and tribes on fisheries management issues, we applied the same philosophy to the management of the petitioned species. Even though the act doesn't require that, frankly, the States and Indian tribes have much of the necessary scientific information on which decisions to list are based upon.

Once we concluded that process, we selected a seven-member—and that is both geographically and scientifically—diverse, outside-the-agency recovery team. The previous norm had been to use inside-agency scientists.

Further, they pioneered new areas in that the team, once it completed its work, submitted that draft for scientific peer review before submitting it to the agency.

One of the big difficulties that we have confronted has been the management of section 7 consultations for Federal projects in Federal contracts. The Act specifies that that is a process among and between Federal action agencies and the Federal reviewing agencies. This simply left out our partners, our States and our tribes, in those deliberations.

Let me just indicate some of the important lessons learned. One, the Act is not proactive. It is designed to react when species are approaching extinction, which is the definition of endangered. I heard it recently described that we are simply ambulance chasers with the patient being critically or terminally ill. The Act needs to be restructured to focus on avoiding listings.

Further, the ESA should be more user friendly. Also, the Act should encourage the use of outside scientists. It should encourage partnering with States, Indian tribes and anyone that has vital information for making the scientific determination.

Finally, there has been little incentive for private landowners to vest in the process. Plus, there is little flexibility for the very small landowners. Most of these issues were addressed in Secretary Babbitt's and Brown's 10-point plan, which has been referenced already; and we will submit a copy of that plan to the Members. The changes are significant. They go to the heart of legitimate problems associated with the Act.

Mr. Chairman, we acknowledge that the Act is in need of modification and change, but that the essence and the philosophy of the original drafters of the Act to preserve species and their habitat to enrich our lives and the lives of future generations will never change.

I look very much forward to working with you and the committee. Thank you.

Mr. POMBO. Thank you.

[The statement of Mr. Schmitten may be found at end of hearing.]

Mr. POMBO. Mr. Unger.

STATEMENT OF DAVID G. UNGER, ASSOCIATE CHIEF, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Mr. UNGER. Thank you, Mr. Chairman.

I would like to ask that our full statement be entered in the record, and I would like to summarize it briefly for you at this time.

I would like to begin by mentioning that Secretary Glickman, as you know, has asked the Forest Service to develop a review of laws, regulations and policies affecting public land management—among them, the Endangered Species Act—and identify the interrelationships and potential conflicts, and opportunities for efficiencies and has asked us to deliver that report to him on the 1st of June. We think that that could be some helpful information in this process.

The mission of the Forest Service, of course, is to do the best job we can, under the laws, to manage the 191 million acres of forests and rangelands and grasslands in our jurisdiction and to provide uses and values in products and services, while maintaining and managing the resources themselves and protecting them, including threatened and endangered species. And I would note that about one-third of all listed threatened and endangered species do occur on national forest lands.

We have helped to protect and improve habitat for many threatened and endangered species, helped to bring back the bald eagle and peregrine falcon, grizzly bear, eastern timber wolf, light-footed ferret, Puerto Rican parrot, and the greenback cutthroat trout. But there are costs. There are direct costs. Research and protection activities of the Forest Service amount to about \$40 million a year in this regard; and, of course, there can be significant reductions in outputs from the forests, such as timber in certain cases.

Early on, we concluded that the best way to conserve threatened and endangered species is a proactive policy to protect and conserve their habitats in order to prevent listing. We do this by identifying sensitive species. We have identified 2,300 of them, and they have been designated as such. It takes time and effort, but it avoids the much more substantial costs and impacts if listing occurs later on.

In order to carry out this preventive strategy, we work with many partners, including the agencies at this table and the others that have been mentioned earlier.

We have developed an agreement with the key Federal agencies. One product of that agreement was the signing last Friday of a conservation agreement with the Forest Service, the Park Service, the Fish and Wildlife Service, the Arizona Game and Fish Commission, Utah Division of Wildlife and the White Mountain Apache Tribe to protect the Arizona Willow.

Consultation in the endangered species process is probably the most contentious aspect, but about 85 percent of our projects in the Forest Service either don't affect listed species or are determined, through informal consultation, not likely to adversely affect. When we do go to formal consultation, ordinarily that is completed within

the regulatory time limit of 135 days. But consultation can be unwieldy when new information comes into the picture, especially if it is late in our analysis process or if a project is already under way.

So we have been working closely with BLM and the Fish and Wildlife Service and National Marine Fisheries Service in the past several months to develop streamlining processes such as concurrent evaluations, batching similar kinds of projects together so they can be dealt with at one time, and looking at shorter timeframes. We think this can help minimize delays in those kinds of cases.

I would like to conclude simply by saying we are committed to effective implementation of the law, we are working to improve interagency coordination, and we support efforts to streamline the act in order to meet its objectives. Thank you very much.

Mr. POMBO. Thank you.

[The statement of Mr. Unger may be found at end of hearing.]

Mr. POMBO. Mr. Kourlis.

STATEMENT OF THOMAS A. KOURLIS, COMMISSIONER OF AGRICULTURE, STATE OF COLORADO

Mr. KOURLIS. Thank you very much, Mr. Chairman. If I seem uncomfortable here making my testimony, it is because I lack the experience on doing such a thing, but bear with me if you would.

My name is Tom Kourlis. I am Commissioner of Agriculture of the Department of Agriculture in Colorado and Chairman of the Endangered Species Committee for the National Association of State Departments of Agriculture. NASDA is a nonprofit association of public officials representing commissioners, secretaries and directors of agriculture in the 50 States and the four U.S. territories. As chief State agricultural officials, NASDA members are keenly aware of the importance of balancing production and natural resource conservation for their States and the Nation.

I am also a sheep and cattle rancher in Northwest Colorado, and I am actively involved in the ranch that my father founded in 1926. I have managed that ranch on behalf of myself and three generations for 22 years. The Kourlis ranch is located in the Axial Basin along the Yampa River and the critical habitat for endangered species of fish that has been designated on the reach of the river that runs through our hay meadows.

I am here to suggest how we can improve the Endangered Species Act and how it can be made to work for those of us in agriculture who are in a position to voluntarily cooperate with species recovery and effort.

I would like to address three points which are of great importance if we are to diffuse the bitter controversy surrounding the Endangered Species Act. These three changes in the reauthorization will increase effectiveness to imperiled species on the ground and will make the act more functional at the resource level. These points are included in my written testimony, which I have recently submitted for the record.

Let me begin with the issue of certainty. Successful efforts to recover threatened and endangered species are very dependent on the ability of non-Federal landowners to contribute something of value. A major goal of the reauthorization should be to create vol-

untary incentive programs that encourage, rather than force, willing landowner cooperation.

The National Association of State Departments of Agriculture is one of the agricultural organizations proposing just such a voluntary incentive-based partnership for farmers and ranchers. We support the concept of voluntary whole-farm natural resource management planning.

As proposed by NASDA, these whole-farm plans will provide the technical and the financial assistance necessary for farmers and ranchers to voluntarily enhance conservation of their resources and provide improved wildlife habitat. Such plans will allow farmers to act, rather than react, to species' needs. Approval and implementation of these plans would also give landowners certainty that they would be in compliance with the provisions of the Endangered Species Act.

We strongly encourage this task force to include compliance language for whole-farm natural resource plans in the reauthorization of the Endangered Species Act.

This action would be consistent with the approach taken by the House in H.R. 961 in the Clean Water Act. During Floor consideration of the water bill, the House voted 290 to 122 in favor of whole-farm plans. The Members of this task force voted 14 to three in favor of the plan.

In addition, we support the concept of safe-haven agreements as another tool for increasing cooperation. Such agreements would allow appropriate State agencies to enter into voluntary prelisting agreements with landowners to ensure habitat conservation of candidate species. Those agreements would offer certainty that the co-operators would not face additional obligations under the Endangered Species Act if the candidate species or another unforeseen species were to be listed at a later time.

Both of these concepts are very similar to the no surprises policy and the voluntary incentives for landowners policy outlined earlier this year by the Secretary of Interior.

The second point I would like to make is that there must be new partnerships between Federal and State governments in implementing the act. States should be given more authority so as to balance the powerful role of the U.S. Fish and Wildlife Service. The Service currently holds all the vetoes, all the cards; and naturally that breeds resentment, distrust and gridlock in the implementation phases of the act. They should be given joint authority for decisions surrounding listing, critical habitat designations, recovery programs and delisting. This would greatly improve the cooperation and the development of quality programs.

I am neither endorsing Federal primacy nor State primacy. What I am proposing is a Federal-State partnership.

My third point is that we must not sacrifice good, workable projects in the pursuit of perfect solutions. Those of us who have spent our lives watching the unpredictable ways of nature know that we often must settle for something that works, works well, even if it is not completely perfect. We must decide when good is good enough.

Let me ask you this question. In order to hasten recovery of an endangered fish, should we not take fertilized eggs from endan-

gered fish that are native to the region and raise hundreds of offspring in captivity and release them into the critical habitat, effectively jump start the recovery?

I recognize that captive breeding is subject to endless arguments among biologists worried about preserving diverse gene pools. Captive breeding and reintroduction may not be a perfect solution. However, it is a pretty good jump start on the recovery when combined with habitat improvement, and that is something we shouldn't overlook.

In closing, the reauthorization bill should stress voluntary cooperation. It is clear to me that the Federal Government simply does not have the resources to continue to force the State—those States, tribal and local governments and private landowners into compliance. If the act is truly to be successful, it must enlist those landowners as active and willing partners to accomplish a higher level of success.

Thank you very much, Mr. Chairman.

Mr. POMBO. Thank you very much for your testimony, and you did just fine.

[The statement of Mr. Kourlis may be found at end of hearing.]

Mr. POMBO. Mr. Frampton, first, I would like to just get a couple of, I guess, housekeeping things out of the way.

A couple of weeks ago, when we invited the members of the administration to testify, we submitted a list of questions to Secretary Babbitt; and if you can ask him about that and have him submit the answers to those questions for the record, it would be greatly appreciated. I was hoping that we would have them before your testimony today, but we have not received them yet, so I would appreciate that.

Mr. FRAMPTON. We are putting together the answers to those questions, Mr. Chairman, and—which I saw I think about 10 days ago; and we will provide them as soon as possible.

Mr. POMBO. Another matter deals with a letter that you sent to me on March 10th of this year in response to my concerns on the fairy shrimp listing, and you commented in the letter that the science had been peer reviewed by several individuals, including a scientist from the University of California and a scientist from Stanford. I would appreciate it if you could—and I have not been able to find this—provide the names of who did the peer review on that—on that science.

Mr. FRAMPTON. I will do that as well, Mr. Chairman.

Mr. POMBO. Thank you.

[The material supplied may be found at end of hearing.]

Mr. POMBO. I appreciate the tone of your testimony today, and I think that it will help us a great deal in trying to achieve a bill that is workable in both protecting endangered species and in dealing with the public.

One of the things that concerns me is that it is—you have said in the past, and as well as today, that a number of the changes that need to be made under the Endangered Species Act you feel can be done administratively versus through legislation, and I would agree with you that a number of changes can be done administratively. But one of the dangers in not correcting it in the legislation is that you are open to being sued on every time that

you try to use the flexibility that is within the act, as has been represented by a number of cases. Particularly in the Pacific Northwest, when the executive branch has tried to use the flexibility that is in the act, they have ended up in court over it. How do you respond to that?

Mr. FRAMPTON. Mr. Chairman, we think that our administrative and policy changes, without exception as far as I can think of, are soundly based in science and law and will withstand any court challenges. I am not aware of a case in which an attempt to use that kind of flexibility has been litigated, but we certainly do support putting many of these new policies and regulations and strategies into law.

For example, the issue of peer review has been an issue for years. We now have a standard policy, three independent scientists peer review every listing. That is a policy. We would like to see that written in the law.

The Secretary's no surprises policy, which enables us to have a structure for saying to local government or a private landowner, if you do a plan that adequately accounts for the habitat needs not only of species that are already listed but species that might be listed, then we will not come back in 15 years or 20 years or during the life of the plan, even if new information is discovered, and make you spend more for those species. We would like to see that in the law.

We would like to see a number of other things we have done to make habitat conservation plans, multi-species plans, and some of the things that we have done through the 4(d) rules, for example, in southern California also written into law. So we think we are on sound ground, but we would like to see that incorporated in the statute, those changes.

Mr. POMBO. One of the proposals that has been put forth by the administration is an exemption for small property owners, and I happen to believe that that really is poor policy to establish a break point on—based on the size of the property. Wouldn't it be better to deal with the conflicts between private property owners and ESA so that an exemption based on size of property is not necessary?

Mr. FRAMPTON. Let me clarify what it is that we are proposing—we are going to formally propose it in the next week or two. Under the proposal residential homeowners, and this would take care of 85 to 90 percent of the homeowners in the country, and all landowners who want to develop or disturb five acres or less would ordinarily be exempt, in the case of most species, from the Endangered Species Act.

Now, in the case of species where there was an exception, we would change it, but the ordinary assumption would be a five-acre—not five-acre landowner but five acres of disturbance or development or less for a landowner, any size, one time.

If your question is, is that a somewhat arbitrary standard to have, in general, yes, it is. But what we are aiming to do, just like programmatic permits under the Clean Water Act, is something that I think has proved very successful in the past. And that is, if we are relying primarily on public land and voluntary landowners for large-scale habitat protection, we can let most people out from under the Endangered Species Act. And if we can give re-

lief to 90 or 95 percent of the people or in 90 or 95 percent of the cases without really undermining the purposes of the Act, let's do it.

Mr. POMBO. And I understand that. I just believe that a better public policy approach is to deal with conflicts between private property owners and the protection of habitat in a much more broader sense. I think you will come to the same conclusion that small property owners have little or no impact on the overall survival of species, but I think that by taking an arbitrary number, whether it is five, 10, 20 or 100 acres, whatever you come up with, I think that you are—that that is just poor policy from the sense of protection of species in general.

Mr. FRAMPTON. Well, let me make clear that we do have—we are already using and propose to expand a panoply of other efforts to resolve these issues. For example, in the 10 years before this Administration came to office, only 15 habitat conservation plans under section 10 were completed. We have now completed 60, four times as many as the last decade in the last two years; and we have almost 200 under negotiation.

Those are not all voluntary agreements with large landowners, but many or most of them are. They are with major timber companies. They are with county governments.

And if you look at southern California or Washington County, Utah, for the desert tortoise or the agreement we signed with Plum Creek Timber in the Montana State lands division, in the Swan Valley or the Weyerhaeuser HCP we reached last month, we have got those kinds of tools to deal with larger landowners as well as small landowners. But we might as well let 90 or 95 percent of the people, including residential homeowners, out if it is easy to do. I don't think that that prejudices or undercuts the efforts we are making to take a strategic approach to larger landowners.

Mr. POMBO. Unfortunately, 99 percent of the problems are with the larger property owners; and I don't think that there is different protections in the law based on property.

My time is expired; and, with the committee's indulgence, I would like to recognize the full committee Chairman, Mr. Young.

Mr. YOUNG. Thank you, Mr. Chairman. I appreciate you having these hearings.

It is amazing what an election will do, and now the cooperation exists that didn't exist before—not because of the administration in place today. It is basically to implement the law.

I am one of the people, I think the last remaining person on this committee, who voted for this act originally. It was never intended to be implemented as it is being implemented. It has been regulated, it has been changed, and that is why we are having these hearings. And, hopefully, we can make it work.

I am one that does not support repealing the act. We are trying to make it work. That is very, very important.

The gentleman from Colorado, I thought you had great testimony. That is what this is about, this position of the government, the big-brother government telling States, individual farmers what they have to do or they go to jail.

It won't work. We won't tolerate it. The people won't tolerate it. This is a partnership, supposedly, to protect the species, and you

have the case of the fish and you brought that up very clearly. What is wrong with trying to jump start, making this work? They say it can't be done, but you did it with the wolf, but you can't do it with the fish. That doesn't make sense.

It is the willy-nilly application of the law that doesn't—is not consistent. And so I do think that before we are finished we have to make this a consistent partnership between States, private landholders, the government and its agencies or we are going to be in serious, serious trouble, including the species themselves.

I have some personal experience. A father left three brothers a piece of ground in California. One of the parts of the will was 21 acres were not to be disturbed. We have, very frankly, in this area the last habitat as it was many, many years ago. We have taken care of the species. And now there is a chance that the golden gopher snake or garter snake would be on that list, and we are being told you can't farm around it because you might disturb the habitat.

Instead of saying that, they should reward the people who took care of the snake. That is what should happen. Instead of, if you don't, you are going to go to jail. If you plow your field, you are going to go to jail.

And that has been the attitude of not only this administration but the agencies themselves. You don't have the support that I think is necessary to keep this act in place. We have to take it and rebuild it.

But I would like to get to a couple questions to the gentleman from the Forest Service.

Habitat conservation areas were imposed in the Tongas. Those areas totaled over 600,000 acres where timber harvesting was prohibited. At the same time, petitions to list the Alexander archipelago wolf and the goshawk were filed by the extreme environmental groups.

Then Forest Service and Fish and Wildlife Service coordinated a review of the petitions on the wolf and goshawk. The goshawk petition was denied. The bird was not listed. This was because there was no evidence that the bird was threatened or endangered. In reality, it was a fringe species. In fact, it has never been residing in the Tongas.

Now, I want to ask a question. There is no evidence the species declined, as was the case in the goshawk, and if there is not a listed-species, then why should the listing process under ESA be used as a reason to impose habitat conservation areas like those in the Tongas? And by the way, you bring up one of the valid points.

You say you are going to work together, but the Fish and Wildlife, Federal, said there was no listing of the wolf or the hawk. And yet the Forest Service to this day is implementing those conservation habitat areas saying we don't care what Fish and Wildlife says. Now, what is the justification? Where is this partnership working with the Forest Service?

Mr. UNGER. I will let Mr. Frampton respond to part of that, but, again, by saying it is a proposal that is being commented on by the public now to establish interim areas, and the deferral of certain activities such as timber sales is being carried out during this pe-

riod until we determine what the final decision will be on adopting those.

The basis, Mr. Chairman, was information that indicated that we needed to look closely at this situation and take some preliminary steps. And I believe that that effort to try looking at a sensitive species before listing and avoid listing, exemplifies what I was saying earlier.

Mr. YOUNG. Because what you have done is shut down harvesting in that area, period.

Mr. UNGER. No.

Mr. YOUNG. You have done that; don't tell me that. I have been there. Don't start this argument, because I have got people out of work. Areas that were supposed to be sold, supposed to be up for sale and being cut today, can't be done because of your action. Not the Fish and Wildlife. They have said publicly those species are not endangered. But you have not come back and said, all right, they are not endangered.

And, you know, I am really concerned about this, because there were 6 million acres set aside just for habitat. We have done this in this Congress. Mr. Miller helped us do this. Six million acres for old-growth preservation, the habitat conservation, for endangered species and species that are indigenous to the area. And now you come along and shut down the rest of the areas because you think, your agency, they might be, in fact, endangered, when the Fish and Wildlife say they are not endangered.

Now, you are two Federal agencies. You are under, frankly, our jurisdiction. And this is an example why this act has been misused. It has put my people out of work. Thousands of jobs right now are in jeopardy. Mills are being shut down, and very frankly, only 10 percent of the forests in the Tongas is open for logging to begin with, because we have set it aside already.

Mr. Miller helps me do this, 7.5 million acres we set aside. So I am saying, Mr. Chairman, all due respect, my time is up, you better get your act together, because you are misusing the act. It was never intended this way. We have documentation they are not endangered, and yet my people are out of work. My time is up, Mr. Chairman.

Mr. POMBO. Mr. Williams.

Mr. WILLIAMS. Thank you. Mr. Frampton, Secretary, let me ask you not so much about the Endangered Species Act in its generalities, but with regard to a current specific effort underway, and that is this matter of wolves in Yellowstone, Wyoming, Idaho and Montana. As you are no doubt aware, there was some resistance among members of those States' delegations to the artificial relocation of the wolf.

I was a little hesitant myself about artificially bringing the wolf back. I preferred, as did some of my biologist and science friends, to see the recovery proceed naturally. However, now it is a deal, we have a deal. And the wolves are there. And as you know, there are now howls in the Congress to unfund the effort.

Now, even though I was hesitant about bringing the wolf in there, it seems to me doubly unwise to strip the money. I worry about the potential for no management of these wolves. They come under a certain section of the Endangered Species Act, which does

not entirely treat them as an endangered species, with the understanding that they will be managed.

If we pull the money, they can't be managed. It seems to me, that begins to endanger the ranchers and the others who live in the area. Can you visit with us some about the ramifications of pulling the money for that deal?

Mr. FRAMPTON. I would be delighted to. Director of the Fish and Wildlife Service, Mollie Beattie, is also here today. We have had several long discussions with Senator Burns about this in the last week, and I think we are getting very close to convincing him to change his view on this subject. Not quite there yet, but almost.

Very briefly, we think wolf reintroduction is the fastest, cheapest way, to get this animal off the endangered species list, it is designed to get the wolf off the list in 2002. Save 15, 20, 25 years in getting this animal off the list, and will do it less expensively than the total cost over time of natural reintroduction.

Now, you may disagree, one may disagree with that goal, but most people who support the Act, and almost everybody who is a critic of the Act thinks we should be moving to get species off the list. This does it faster and cheaper. That is number one.

Number two, there has probably been more public input and public involvement in the process of the wolf reintroduction effort than almost any natural resource issue in the last 25 years. And there is strong national and regional public support for it.

Third, the reintroduction part of this is designed to be more sensitive to rancher and grazing interests, more flexible, and protects those interests better than if we had natural introduction. And finally, there is no real evidence that there is a threat here to ranching interests from wolf reintroduction. In fact, a Federal judge leaned over backwards this spring to give the Farm Bureaus of the three States an opportunity to present evidence and found not that the evidence was slim or not enough to win their case, but that they presented no evidence that there was a real threat to the industry.

We have experience with this in Montana where there are about the same number of wolves as we are hoping to establish in Idaho and Yellowstone. Last year, cattle losses in Montana were \$40 million, from all sources; \$1,000 from wolves, all compensated.

Last year in Montana, more than a thousand times as many sheep died from ovine ineptitude as died from wolves. That is a sheep that falls over and can't get back up. The fact of the matter is that we are going to spend about \$300,000 a year for three or four years, about \$1,200,000 for the reintroduction part of this.

The overall monitoring and so forth is more expensive, about \$6 million in seven years. Most of this money will go to the three States. It is not being spent by the Fish and Wildlife Service, but by the three States. For that \$1,200,000, we are going to advance this, getting this animal off the endangered species list by 10 or 20 years. It is a good investment and to interrupt the investment and throw out the program would cost us a lot of money, would set back the effort, and would be worse for the ranching and farming and grazing industry, because then you have natural introduction.

Mr. WILLIAMS. I thank you. Those—you have answered the question very well. Those have been my concerns as well. I want to say,

again, I was hesitant about bringing the wolf in. I want to note, finally, and it may be unusual for a Westerner to recall this, but you mentioned, Mr. Frampton, in total we will spend about \$7 million on the wolf. We will spend—we spend five times that amount every year of the Federal taxpayers' dollars in helping ranchers eradicate coyotes and other pests, if we call them pests. And so we ought to worry about each Federal dollar, because they all spend the same.

Now, let me finally say, and I, like the Chairman—Mr. Chairman, I recognize the red light is on—but I want to say to the three Federal officials, maybe our neighbor from Colorado as well, and this may be a timely—my statement may be timely, because it comes when you are hearing a lot on the national news about the ambivalence of the West toward the Federal Government, and maybe even the resistance of the West toward the Federal Government, the Endangered Species Act and regulations in general.

I can't speak for all of the West. Neither can anyone else, because no one understands it. The West has always been a bit of a myth. The West is kind of a national event in America. But I think I understand Montana, and I want the three Federal officials here to know what I think I know for certain about Montana.

Montanans have a deep visceral demand that the place be protected. We want the great roving wild animals to be there for our great great grandchildren to see. We understand that there will be some discomfort in trying to protect Montana, and we are willing to put up with an appropriate amount of that discomfort in order that Montana will remain what America has named us.

You know, our slogan for ourselves is "Big Sky." America adopted a different slogan, the "Last Best Place." And let me conclude by saying, when Montanans repeat that, when we repeat that Montana is the last best place, we don't say it with pride. We say it with sadness.

Thank you, Mr. Chairman.

Mr. POMBO. Thank you. I already warned you guys that when the Speaker got here I was going to let him go, so we have been joined by the Speaker of the House, Newt Gingrich. You guys can just stay there, just scoot over a little bit. He doesn't take a lot of room.

Welcome to the Endangered Species Act Task Force hearing. And, Mr. Gingrich, you may begin.

STATEMENT OF HON. NEWT GINGRICH, SPEAKER, U.S. HOUSE OF REPRESENTATIVES

Mr. GINGRICH. Thank you, Mr. Chairman. Let me say I am very grateful and I apologize to the witnesses for showing up and speaking briefly, then I will get out of your hair. I just believe that what you are beginning with these hearings and what you have begun with your field hearings is so important to the country's future, that I wanted to come by and indicate a general framework of where I hope you and the Members on both sides of the aisle will go as you develop this and as you think this through and as we move forwards to Floor action.

As you know, we have been working together and I want to thank the Chairman for meetings he has come to and several din-

ners we have had and opportunities to engage, and I also want to thank the Chairman of the full committee for the kind of approach he has made to this.

I used to teach environmental studies. I am very deeply committed to our having a strong and an effective environmental policy. I come out of a background of the Theodore Roosevelt wing of the party.

President Roosevelt, Theodore Roosevelt said, in 1909, I quote, "The function of our government is to ensure to all its citizens now and here after their rights to life, liberty and the pursuit of happiness." If we of this generation destroy the resources from which our children would otherwise derive their livelihood, we reduce the capacity of our land to support a population, and so either degrade the standard of living or deprive the coming generations of their right to life on this continent.

I think the balance implied by Theodore Roosevelt, the Gifford Pinchot approach to conservation is very important. On the one front, you have legitimate property rights and legitimate economic interests. On the other front, you have a need for a level of biodiversity and a level of concern for the biological system that is also, I think, paramount. And the question is, how can we work together?

If you were to go back and look at the hopes of the people who helped pass the original Endangered Species Act, and that includes the Chairman of the full committee, I think their vision of where we would get to doesn't fit the bureaucracy and some of the micromanagement that we have ended up with, and doesn't fit some of the misallocation of source resources, and frankly, some of the bad science.

On the other hand, I must say, and I wanted to come to register this, I have the deepest concern and I have been pretty consistent in my support of property rights. I understand the concern, for example, that not just Westerners, but rural Americans from most of the country have about a Federal Government that at times is too indifferent and too willing to run over their rights and their concerns.

On the other hand, I have a deep concern for the biological diversity of the planet. My hope would be, and I want to just suggest three things and then I will get out of your hair, my hope would be that we are at the very beginning of a dialog; that it is totally legitimate in the context of the last decade that the loudest voices for reform are those who feel that their economic interests and their property rights have been run over, sometimes for the most trivial of reasons or by the most insensitive of bureaucracies. And I am sympathetic to that.

On the other hand, we also have to recognize that there are enormous interests that we have as human beings in maintaining biological diversity and that the truth is we don't even—we have only scratched the surface. And I emphasize this, this is not just about large vertebrates.

I have worked—my dear friend, Terry Maple, is here from the Atlanta zoo. We have worked on rhinoceros and we have worked on elephant and other conservation. But this is also about the fungi and the various things which produce the medicine in the future.

And if you went through a list of the things we have gotten out of the biological system, out of the biosphere, that have revolutionized human health, just to take one sector, it is astonishing how much we have gotten and how little we know.

From what I have seen so far of the new report in which a very distinguished group of scientists make the point, and this is the first of my three suggestions, that endangered species, per se, isn't—may be the wrong slogan, may be the right slogan, but the wrong focus.

Maybe we should seriously consider redefining the act; that in a very real sense it ought to be the Biological Diversity Act, because you can both overfocus on a specific species, and not understand what is happening around you, and you can also misallocate.

If your choice is, and I want to emphasize here, and I would say this to all of my friends in the environmental movement, there has to be some element of rationalism about economic investment. And if our choice is a biologically diverse area that is in effect very important to support, versus a single species by itself, we may conclude let's invest the resources here, because we don't have infinite resources.

So my first point will be I think we want to rethink the focus of the act away from a species-by-species static model toward a biologically sophisticated model. My second suggestion, frankly, is that once the act has been introduced and once we see what happens in the Senate, that maybe during the August break we find a way to take off ranchers and timber and biologists and environmental activists, and literally spend a week working through the various permutations of how it would work, including frankly, and I don't say this in any sense of surface, just childish gimmickry, asking the biologists to play the role of the rancher and the rancher to play the role of the conservationist, and getting people to walk a little distance in each other's shoes, and trying to be practical about where we are going.

I will just close with this comment. I am very committed to bringing through the House a bill which is economically rational, biologically correct, and respects the property rights of individuals. And this is a very tough, very high standard. And it is going to take a lot of work this year to get there.

I think Chairman Pombo has gotten us off to a good start. I appreciate the openness with which he has dealt with various biologists and scientists that he and I have met with. I think we have got to make sure that everybody is in the room and everybody has a chance to think this thing through. And I came to pledge my support to this committee, to this subcommittee, as it undertakes what I think is a very, very important project. I thank you.

Mr. POMBO. Thank you very much, Newt, for being here, and the support you have given to the committee. I know that this is probably one of the most controversial issues that we will take up as a new Congress, because it is an emotional issue on both ends of the spectrum. It is a controversial issue on both ends of the spectrum.

I appreciate your pledge to work with us in the protection of endangered species and the protection of people's private property rights. I think that that is key to making a bill that has worked.

And I know I have told you this before, but no act that we come up with will ever work unless the people that are out there in the real world support it. And that is one of the keys to making the Endangered Species Act work. And I appreciate you being here. Thank you.

Mr. GINGRICH. Thank you. Thank you very much.

Mr. POMBO. Thank the panel for rejoining us. And, again, I apologize for the interruption in your testimony answering questions.

Next is Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman.

I told the Chairman of the full committee, we all should have clapped for Newt on that speech. But the Chairman says we don't allow that.

Mr. YOUNG. Only for birthdays.

Mr. GILCHREST. Only for birthdays. The gentleman from Montana left, and I wanted to make a comment about "big sky" country and how they feel in a visceral way concerning the beauty of their State, so when they talk about the last best place, they do it with a sense of sadness. And I wanted to tell him that we feel that way about the Eastern Shore of Maryland, and some places in Maryland. And we are under more pressure than Montana, given the geographic location of the Eastern Shore of Maryland. So there is a lot of places in the country where people have a visceral sense of its beauty and its heritage and they want to protect it for future generations.

I would like to ask Mr. Unger and Mr. Frampton if they might, because I have three questions and only five minutes, to quickly respond to Mr. Young's question about the habitat in the Tongas National Forest, where the Fish and Wildlife Service said a particular species was not endangered and the Forest Service is going through a plan to see whether or not they need to preserve more habitat as a result of the suspected endangerment of a particular species.

Mr. Unger.

Mr. UNGER. Yes, let me begin by referring to my opening statement in which I said that we believe that in the long run the best policy is a proactive policy that avoids listing, that prevents situations that lead to listing, because when a species is listed, the impact on the resource, the impacts on the economy, the impact on getting the job done, become much larger.

We initiated a process to look at this. This occurred before the decision was made not to list. We proposed some interim guidelines. We are in the process now of getting public comment preparatory to making a final decision.

In the meantime, this action has taken place by the Fish and Wildlife Service and Mr. Young certainly is right that there have been deferments of timber sales, for example, in this period. But no final decision is made on the imposition yet of the interim guidelines.

Mr. GILCHREST. Mr. Frampton.

Mr. FRAMPTON. Congressman Gilchrest and Chairman Young, I think we are trying to work together to avoid precisely the kind of train wreck that occurred in the Pacific Northwest.

My understanding of the situation with the goshawk is not that it is not endangered, but there is simply not enough scientific information right now to be confident about its status. There are some very serious concerns.

One of the criteria for proposing listing is whether other conservation measures are being taken to keep a species off the list. And this is a situation that arises elsewhere in the country. And what we are trying to do, we the Administration, by having departments and agencies work together in these situations, is, as Mr. Unger said, to encourage proactive measures by the land management agency or the operating agency so that we don't reach the point of listing; or even if listing is justified, where we don't have to trigger the Endangered Species Act because we let the Agency or the State or private landowners undertake conservation activities. That is our goal in this case. I realize that the Chairman may not agree with the outcome, but that is our goal.

Mr. GILCREST. I will yield to the gentleman.

Mr. YOUNG. Will the gentleman yield? Again though, your own agency says they are not endangered, they are off the list. That agency says we are going to keep them on the list, until we finally have scientific research. And I am saying in the meantime you have got people out of work.

And secondly, may I suggest—give him some more time, Mr. Chairman—is we set aside 7.5 million acres for old growth preservation and habitat. That has not been looked at. You are going to the last areas that can be harvested. So in de facto you are taking the rest of it and saying, oh, no, we are looking for habitat.

In the meantime, we have got two years, people are shut down, people are out of work. That is not fair. You misuse the act. And I know, Mr. Chairman, give him an extra minute.

Mr. GILCREST. Thank you. I would like to follow up on this a little bit further, but I would like to ask Mr. Schmitten a question from NMFS. And I guess I have another minute here.

Mr. POMBO. Go ahead, won't stop you.

Mr. GILCREST. Thank you. There has been a lot of discussion about certain species of salmon becoming extinct for a variety of reasons, and I would assume, correct me if I am wrong, some of the reasons are habitat loss. And a lot of people say that there is still a lot of salmon out in the Pacific Northwest.

It may not be the same number of species, but there is still a lot of salmon. And my question is, why do you need more than one species of salmon? And are subspecies important at all in the whole scheme of biodiversity and the quality of life for any species? Are subspecies important? Why do you need more than a few species of salmon?

Mr. SCHMITTEN. Thank you, Mr. Gilcrest.

First, yes, in many parts of the Northwest, especially in Chairman Young's area, there are a lot of salmon. Alaska has had six consecutive record runs. But why do you need subspecies of salmon?

Salmon are important culturally, diversity, just as the Speaker mentioned. For instance, the Snake River salmon are unique in many ways. They are worth saving in my eyes. The sockeye, the

furthest running sockeye in the world, 878 miles, they spawn at the highest elevation. They go the furthest south in the country.

If you were to homogenize or have just a single species, it would be very subject to environmental catastrophes, man-made catastrophes, and you would lose the entire species. If you keep biodiversity, that is less likely to happen.

Mr. FRAMPTON. Congressman Gilchrest, if I could just respond to that for a moment, I think the National Academy panel, whose report was issued yesterday, looked very hard at the issue of whether the Act should continue to focus on, and the importance of, subspecies and distinct populations, and the role that they play in continuing to have the genetic diversity that preserves the long-term health of the entire species. The way I read this report, last night at least, is that it is a rather strong endorsement of the approach that the National Marine Fisheries Service has taken to so-called evolutionary significant unit, or evolutionary unit, a concept that the panel recommended actually be expanded along the lines that the Speaker just suggested, to try to focus more on biodiversity and less on individual species or subspecies.

Mr. GILCHREST. Thank you very much.

Thank you, Mr. Chairman.

Mr. POMBO. Mr. Miller.

Mr. MILLER. Thank you, Mr. Chairman. Thank the panel very much for your testimony.

Mr. Frampton, we thank you very, very much for your work out in California to help us sort out some of these difficult habitat species-related problems in terms of our State's future and its economic future.

Let me ask you a question, and I—I don't take a back seat to anyone in the support of this legislation. But it seems to me that this legislation is subjected to a huge number of anecdotal stories about its implementation. And I have almost as many as any other Member of Congress, and we have all been besieged with them. And some of them turn out to be sort of true and not true and what have you, but there seems to be a core around those, and that really is about some sense of uniformity or consistency or exactly what the rules are or are not.

And it seems to—you know, the Secretary as part of HCA is the no surprise policy. It seems to me that very often landowners, developers, in my area, it would be mainly developers, housing developers, are constantly surprised by what the rules are going to be and that the rules seem to change throughout the entire engagement in dealing both, you know, with wetlands and/or species, that this is a constantly evolving—the dynamics are never quite less than fluid in terms of people who have to make decisions about time and time is money and that all sort of flows back into the congressional offices.

And you have mentioned in your testimony what you are trying to do to bring more uniformity, more consistency to this, but I really don't get a sense that we are there yet. And I don't know what our changing the law can do to help that, but I would also like to know what exactly the administration's views are on that.

Mr. FRAMPTON. Well, we have taken a number of steps, Congressman Miller, both to try to improve national uniformity, but

also to give more predictability when a species is listed. Our policy is when we list, we identify those private landowner activities that clearly will not perhaps get in harm's way under the Act, that we identify those.

I would be the first to admit that there have been problems in the past. I think that the real question to this is to have a program that involves State and local government as well as private landowners, and that involves the people who have to live with the consequences of the plan in developing the plan.

Let me give you an example of how not to do it and how to do it. In the last Administration, the famous Stephens kangaroo rat was listed in Riverside County, and a lot of subdivision and development came to a halt, in part because people did not know exactly what they could do and what they could not do.

The rat was even blamed for people's houses burning down. It turns out not to have been the case, but the uncertainty about these issues added to that set of perceived problems. And this is not after the election, but two years ago, when Secretary Babbitt made a decision to—we made a decision to—list the gnatcatcher in San Diego and Orange Counties. We published a special rule under the Endangered Species Act, which basically created an interim regime allowing a certain amount of development to occur, setting the ground rules, and deferring to State and local and county governments to work out a plan that would give clear allocations for developers and for protection, and a lot of certainty over a long period of time.

It seems to me those are two different paradigms. We can do better with giving people advance notice about what they can do and not do, but the better solution is to get State and local government involved in a plan that gives real certainty.

Mr. MILLER. I guess that is welcome. I guess my concern is maybe more specific, and that is, and I am running out of time. Let me just put it out here.

We can talk about it during the course of this bill, but, you know, on the ground, when you are seeking a permit, you are seeking to do something, there is an informal regime and protocol that takes place. And very often, what I think happens, is there is a gradualism that moves into the regulation of the use of that land or how the development plan is going to be carried out, what have you. And very often it is not based on an endangered or threatened or candidate species. It is based upon concerns that agencies may or may not have for a species.

And all of a sudden you find yourself, you have got to make some major decisions about the financing of your project, your go date, the weather, the lining up of your crews, and you find yourself in a position where you have got to give up a hundred acres because it is much cheaper to give up the land than to continue this discussion about concerns. And the concerns aren't based in, you know, scientific evidence as of that date or anything else than that, but you simply are now economically put into the situation.

And a hundred acres where I come from is worth a lot of money, but you have decided we will comply. And in some instances, you know, we have Fish and Wildlife that says this isn't a problem or State agencies that say this isn't a problem. It is somewhat analo-

gous to what Mr. Young said. And now the Corps says, yes, but you are not going to get that permit unless we do something about that species.

Last time I looked, that wasn't their business, but when you are looking for the permit and you are—you know, you have got your future Bank of America or Wells Fargo, your negotiating positions are greatly diminished. And I think that is what concerns many of us, certainly in California, where we are still a high growth State. And very often, that then translates into higher cost housing, longer commute distances and a lot of other things that we are concerned about, when, in fact, the hard scientific evidence that we can argue about in terms of threatened and endangered and is simply not present. I don't want to take up the committee's time.

Mr. FRAMPTON. I would just say that the multispecies habitat plan involving local government and the State, as well as private landowners, which is what is going on in San Diego and Orange Counties, is designed to prevent that from happening. Because what the plans do with the involvement of private landowners, is to look not only at species that are now the subject of State or Federal regulation, but those which might become the subject of State and Federal regulation in the future. And once the plan allocates areas of habitat on a biodiversity basis, really a multispecies basis, for protection, and other areas that can be developed, then you have a very long period of certainty. You don't have a negative situation.

Guarantee is built in that somebody has plans to develop an area 15 years from now and will not, in fact, be interrupted at the last minute. This approach is also an approach that I think received pretty warm support from the National Academy panel, and it is an approach which fits with the approach that the Speaker just described.

Mr. MILLER. But that approach is not being uniformly and universally applied. So in fact, what you are doing is ad hocly creating habitat protection areas at the expense of the first person through the door.

Mr. FRAMPTON. Well, it is being systematically applied when we get State and local government involved in Orange and San Diego Counties, and in other places where we are trying to do that through local government. It is true that this is a slow process, that it is a model. We are pioneering it. I wish it would move faster, but I think it is—

Mr. MILLER. I wouldn't argue with you. I expect that it is a model that would be welcome in most areas by economic interests, it would be welcome. But, you know, it is not in most areas.

Mr. POMBO. The gentleman's time is expired. But I feel like letting you keep going.

Mr. MILLER. Well, Mr. Chairman, I mean I think, you know, we get besieged, let me just say that. I don't want these remarks to be interpreted, because as I said, I am a very strong supporter of this act—

Mr. POMBO. I don't think anybody questions that.

Mr. MILLER. But we live out there. When the rubber meets the road, we find very often that it is not according to Hoyle with how some people are treated and prices that are extracted for permits

and all of that. And I think that is what raises the anger of the people who are sitting on this side of the dais. And we have got to contend with that.

And I think the Speaker sort of laid out those parameters, that, you know, whether you are an ardent—and Mr. Chairman, and I will argue about property rights until hell freezes over, but both of our positions have to somehow fit into the community. They have to fit, your property rights have to fit into the community.

You can't just be a renegade in terms of your neighbors and these protections and our obligations to protect them. That has to fit into the community. That is all the point that I am trying to make here.

Mr. POMBO. Well, thank you.

Mr. Cooley.

Mr. MILLER. Any help I can give you, you let me know, Mr. Chairman.

Mr. POMBO. You just keep it up, George. I gave that same speech on the Floor last year.

Mr. MILLER. I can assure you, it is not plagiarism, because I haven't read any of your speeches.

Mr. POMBO. No, but for the first time I feel like you are actually listening to what we are saying.

Mr. Cooley.

Mr. COOLEY. I don't know if I should interrupt this. We are having too much fun. Secretary Frampton, you made some statements in the Wall Street Journal and I would like to ask you about some of these things. To quote what you said is a developing fee on raw land, land in natural and seminatural condition, this, you said, would contribute to effective endangered species protection, encourage—or discourage ill-considered development and return the government a measure of public due. This is your marketing approach, I presume, to this problem.

Mr. FRAMPTON. I don't—could you repeat the statement that—

Mr. COOLEY. Your statement in the Wall Street Journal in 1962, is you said a—I mean 1992. 1962—yes, I have got unwired here. When I see Mr. Miller joking with our Chairman, I get a little bit unglued here. Anyway, in 1992, you made a statement, a development fee on raw land, land in natural or seminatural condition, is, you said, would contribute to the effective endangered species protection, discourage ill-conceived development and return to the government a measure of public due. Do you take this as a marketing approach to public land?

Mr. FRAMPTON. A marketing approach?

Mr. COOLEY. Well, can you give me some idea of what you meant? Number one is what is a development fee on raw land?

Mr. FRAMPTON. I don't remember the context. At that time, I worked at the Wilderness Society. But I will say that one of the central elements of most of the habitat conservation plans, the voluntary agreements that are now being developed by State and local government, involve subdivision fees and development fees, which are exactions which are imposed by State and local government anyway, but which are increased or in some cases redirected to habitat protection. That is true in Washington County, Utah, in Southern California, and in a number of other places. Like Texas,

where these voluntary agreements are being negotiated with Fish and Wildlife Service.

Mr. COOLEY. Well, we are talking about natural or seminatural conditions. You suggested all development is ill-considered in your view, any development?

Mr. FRAMPTON. No, I think the statement that you read to me, which I don't recall the context, but I think it probably was a statement about how one goes about structuring both development and habitat protection. It is a method that has been used for decades by State and local government to do precisely that in connection with the subdivision of land that is in natural state.

Mr. COOLEY. So that is where you say that the public is due some type of a fee for development of this particular parcel?

Mr. FRAMPTON. I think I suggested that is one way to spread the cost of the impacts on the public from subdivision. Obviously, many or most State and local governments in this country agree with that.

Mr. COOLEY. When you say impact on, on what? On the subdivisions, is that what I heard you say?

Mr. FRAMPTON. Impact of subdivision on natural values and on the community as a whole, in terms of sewage and traffic and air pollution and water pollution and having that impact and all the things that are a part of the local government planning process.

Mr. COOLEY. But I thought we took care of that through a tax base. I mean that is what our tax development dollars went for, that is why we are being taxed at the local level for property taxes, in order to comply with the necessary requirements for a civilized society. So are you proposing additional tax, additional fee structure?

Mr. FRAMPTON. I am just commenting on the fact that many local governments do extract subdivision fees of one kind or another. I believe that is correct. I don't pretend to be an expert in the finances of local government.

Mr. COOLEY. OK. There is a—

Mr. FRAMPTON. Isn't that—is that not the case?

Mr. COOLEY. No, that is not the case. I mean that is why we pay taxes. What I take from your statement is that you want an additional tax for some way to offset something that is not already being offset by the tax process that we are presently going under at the local level.

Mr. FRAMPTON. Well, certainly the local communities that I am familiar with in various places around the country that are developing voluntary habitat conservation plans, or in the case of the Southern California counties, they are developing plans that are under State law, in a State process, use local planning processes already in place, which include various kinds of subdivision fees and exactions.

Mr. COOLEY. Well, we call those building permits. We call them sewer permits and things like that, to cover that. But I understand from your statement, it looks like you think the Federal Government should have an extra fee imposed upon development of property.

Mr. FRAMPTON. I don't know what authority the Federal Government would have to do that, Congressman.

Mr. COOLEY. One last statement, Mr. Chairman. It is my understanding that the Secretary has the authority, the legal authority, to exempt small landowners. In fact, indeed the law allows the Secretary to lift every one of the ESA regulations for threatened species.

Is the Secretary, in addressing this problem when we run into specific areas of consideration where small landowners are going to be some way or another considered in this prospect, such as Congressman Miller suggested that in small tracts of land that sometimes the burdening process of complying with the ESA regulation just makes the property invaluable, I mean just worth nothing?

Mr. FRAMPTON. The Secretary has the authority to fairly broad discretion to define the extent to which prohibitions will be, for private land, applied, with respect to threatened species. And we have committed and will have in the **Federal Register** very soon a proposed regulation that in the ordinary case for a threatened species, would exempt residential homeowners and private landowners who want to develop 5 acres or less of their property.

We don't have the authority. The Secretary doesn't have the authority under current law to exercise that kind of flexibility for endangered species, but we have proposed that that sort of flexibility be included in the reauthorization of the Act for endangered as well as threatened species.

Mr. COOLEY. Thank you, Mr. Chairman.

Mr. POMBO. Thank you.

Mr. Dooley.

Mr. DOOLEY. Thank you, Mr. Chairman. And, Secretary Frampton, in your written testimony, I see where you reference the peer review process that the Department is employing now for the listing of species. If you could describe that a little bit, is that—how is this peer—does the peer review process also allow for consideration of additional information that is presented by stakeholders, outside parties, or is it a determination primarily on the information that was presented in the petitioning process?

Mr. FRAMPTON. The peer review is a policy of having three independent scientists look at the proposed listing package. It is over and above all the opportunities that are provided during the comment process and hearings, if there are any, to the public and to interested parties to submit their comments and evidence, and including their own scientific vetting or peer review.

Mr. DOOLEY. So then the—

Mr. FRAMPTON. It is additional body of evidence to be taken into account in the final decision that is made by the Director of the Fish and Wildlife Service whether or not to list.

Mr. DOOLEY. So again, just to clarify, is that it would—this panel, then, is also charged with considering information that is provided during the comment period and scientific information that could be challenging the validity of the information that is a part of the petition?

Mr. FRAMPTON. Right now, I believe—it is not a panel, it is three separate individual reviews. I would have to get back to you or ask someone who is here with me whether that is the case. My understanding is that we peer review the proposed listing package.

Mr. DOOLEY. Does that proposed listing—

Mr. POMBO. If the gentleman would yield, please ask. If you have somebody with you that could answer that question, please ask them.

Mr. FRAMPTON. Sorry?

Mr. POMBO. If you have someone with you who could answer that question, would you please—Rollie has got his hand up.

Mr. SCHMITTEN. Mr. Chairman, I might just cite how we approached it. And when our recovery team, which was a panel of seven outside members, prepared their draft, prior to submitting it to the agency they sent it out to the academic community and other interested constituents, all scientists, for the review, and then submitted that final package to us, which we put out for public comment. So it occurred prior to the agency receiving it.

Mr. FRAMPTON. Could I ask—

Mr. SCHMITTEN. There is no precedential standing of that. That is just the way we did that.

Mr. FRAMPTON. Could I ask Mollie Beattie to respond?

Mr. POMBO. Please, sit up here, please.

Ms. BEATTIE. Excuse me for the confusion. Rollie and Mollie have this problem all the time.

Mr. Chairman, the answer to Congressman Dooley's question is, yes. We make listing decisions as the law requires us based on the best available scientific information. In requesting peer review, we submit the available scientific information, whether it be supportive or not supportive of the position that we are proposing. We give the whole pile to our reviewers and ask them their opinion.

Mr. DOOLEY. So I guess, then, to put in kind of a practical context, who—is somebody making a determination on what information is then presented to the scientists doing the peer review?

Ms. BEATTIE. Again, Congressman, we submit the available scientific information.

Mr. DOOLEY. So you are making a determination on what is the scientific information that could be passed on?

Ms. BEATTIE. No. In our review process, we gather everything we can find in terms of scientific information. We use that as the basis of our decision. It is, of course, rarely dispositive. There is always some doubt.

Mr. DOOLEY. So what happened in effect when Judge Sporkin threw out the gnatcatcher, was that based on what?

Ms. BEATTIE. Based on a dispute over what level of scientific information. It was not the circle we drew and said, OK, you can look at this, but not that. But we have a practice of accepting, and I am going to use this word again, it is going to be confusing, peer reviewed science.

We do not do primary research, as a rule we go out and find what has been published in the scientific journals. These scientific journals are themselves peer reviewed, so any article submitted has to have been OKed and found sound by a bunch of scientists.

We rely on that. The question in the gnatcatcher listing was whether we should have asked for the raw data behind the scientific reports that we were reading.

Mr. DOOLEY. I guess that is where—I mean I think that is a fundamental issue, is whether or not the validity of the raw data is going to be subject to the peer review.

Ms. BEATTIE. I am not sure how we are going to come out on that, but what the judge said is that people should have access to the raw data if they wish to look at it. And certainly that is something we could do. In that particular case, the access was somewhat complicated by the scientists' handling of it.

Mr. DOOLEY. If I could just continue on.

Mr. POMBO. Go ahead. I interrupted you.

Mr. DOOLEY. Then if you are subscribing to a form of peer review, and we can debate whether or not it is going to be as broad in scope as some of us would like, for prospective listings, now that the Department is currently required to review the species which have been listed every five years, I guess, would the Department then entertain a directive through the reform of the legislation that those species that are presently listed should be subject to the Department's new peer review standard?

Ms. BEATTIE. Congressman, I would have to look into the practicality of that. We are talking now about almost a thousand species.

Mr. DOOLEY. But you are required every five years to review every species that is listed now currently, right?

Ms. BEATTIE. Certainly, to see if there is more significant available information. If a species is listed, clearly new information is going to be most important to us. If the species should be delisted, if it is information pointing to a reversal of the listing process, a delisting, a new delisting would have as much peer review as a new listing. So I am not sure that there is a practical problem there.

In other words, if we found information in our five-year review that told us that the species was now recovered, or alternatively extinct, we would be delisting. And in that process, once again, would gather all the available scientific information and that would go through a peer review. So there is an automatic trigger in there that I think would satisfy the—

Mr. DOOLEY. I guess it would just be on who is the burden placed, should it be—you know, some of us would be questioning whether or not it should not be the requirement of the Department to demonstrate that the scientific data that went into the listing of a species should be sound. And I think that is what is leading to a lot of people questioning the credibility of the act, and whether or not we should not set in place a process where that species are listed now should be subject to the peer review, the standards that you have established, and if they have the science that is on the files within Fish and Wildlife or Department of Interior, so be it, that is not a problem. But, you know, once again, to rebuild the confidence in the act requiring that those listed species would be subject to the same standard that you adopted now.

Ms. BEATTIE. Thank you, Congressman.

Mr. POMBO. Mrs. Chenoweth.

Mrs. CHENOWETH. Thank you, Mr. Chairman. I am interested in the listing process.

Mr. POMBO. If you just delay for a second.

Ms. Beattie, you can stay there. You don't have to leave.

Ms. BEATTIE. Thank you, I think, Mr. Chairman.

Mrs. CHENOWETH. I want to direct my question to either Mr. Frampton or Ms. Beattie. You were talking about the scientific re-

view and the scientific data that you require when listing a species. And I want to read to you or just show you a letter from a Roxanne Bitman.

The petition is nine lines long. And she petitions that the Fish and Wildlife Service list the conservancy fairy shrimp, the vernal pool fairy shrimp, the longhorn fairy shrimp, and the California linderiella as endangered species. And this is what comes out of your file, nine lines. And that is the scientific data. This is the reason we are so frustrated.

There was no scientific research done on the listing of these four species, and it did involve private property. So I would ask that this is the reason that we are all asking these questions, and all so concerned about the lack of scientific data. Now, I do want to say that—

Ms. BEATTIE. Congresswoman, may I respond? Would you like me to respond to that?

Mrs. CHENOWETH. Yes, I do, but I want to finish my question to you. You did involve a Dr. Belk in the listing of these species, and in our hearing in California, Dr. Belk admitted that the vernal pool fairy shrimp probably shouldn't be listed, and after all in our line of questioning, he did admit that they had survived ice ages. And so, you know, I just encourage you so that we can work together to look at this specifically.

Ms. BEATTIE. Thank you. On the issue of petitions, it is important to distinguish between the piece of paper that has the petition itself and what happens when we receive it. That is simply a record of a petition coming into us. Regardless of what is presented attached to the petition, and regardless of the motives of the petitioner, the science that we use to explore the supposition, we will call it, that is on the petition, that something is endangered or not, is very thorough and equally as thorough whether it comes in with a 32 cent stamp or comes in from a research scientist at Stanford.

We examine them, we see if they are substantive, and we proceed to gather the best available evidence. An enormous amount of science goes behind these reviews, about a year, year-and-a-half to two years worth of research.

The petitioners sometimes and often does not submit the science with it. It is up to us by law to go and see if there is any substance to this proposal. Indeed, in the last five years we have turned back 75 percent of the petitions we have received.

Mrs. CHENOWETH. What I am saying is that the scientific data that was presented was from Dr. Belk, who admitted at our hearing in California that the shrimp should not be listed, and admitted that it had survived ice ages. So we really did—we were there in the field, we really did examine the files. And so this is—and this is stopping a lot of work and harming a lot of private property owners. But I thank you for being here.

Mrs. CHENOWETH. But I thank you for being here.

Ms. BEATTIE. Thank you.

Mrs. CHENOWETH. I have some questions for Mr. Schmitten from the National Marine Fisheries Service.

As you know, your decisions have impacted my State greatly. I think Mr. Frampton and I have already discussed the wolf and I am going to let him off the hook on that one. But the listing of the

spring, summer and fall of the chinook and the Red Lake fish, sockeye salmon has created a lot of concern in our area, and I know you are very, very well aware of it.

I want to give you an example that National Marine Fisheries Service is not working with our people in trying to expedite our procedure, and, Mr. Chairman, I would like to ask for unanimous consent for an extension of my time for four minutes.

In 1989, a mine went into operation, the Stibnite Mine. In 1992, almost nine years later, the chinook salmon was listed. In 1993, the Forest Service concluded that the mine's operation was not likely to adversely affect the species. Now, the mine is located on private property.

Your agency refused to accept the Forest Service's recommendation and instructed the Forest Service to reach a likely to adversely affect determination. Now, NMFS also apparently refused to initiate formal consultation until the Forest Service did that. These are in documents that I have found.

The Stibnite Mine operation was not allowed to be part of the determination but they did go ahead and contact the National Marine Fisheries Service personnel on numerous occasions in attempts to discuss your agency's review and evaluation of the information. However, your agency refused to have any discussions with them.

We have been advised that it is—on a related note, they wrote in December of 1994 that we have been advised that it is likely that NMFS will have a draft biological opinion this week. That was in 1994. It still isn't here.

We have also been informed NMFS will not provide the company with a copy of the draft on the basis that NMFS considers it a working draft, not a final draft, and that while the regulations do allow the applicant to request a copy of a draft bill, NMFS believes that the regulations only apply to a final draft bill.

I can tell you that this is an example of what is frustrating our people in Idaho immensely.

Now, this company has not been able to operate all of this time. It is losing millions of dollars. On March 16th 1995, the Forest Service wrote a letter to your agency requesting that the response come through in an emergency manner as provided for in 50 CFR S402.05. That was 60 days ago and we still haven't heard from you.

Now, I bring up the issue of the Stibnite Mine because, sir, this is happening to hundreds of our businesses, hundreds. Can we receive any more cooperation from your agency than we received in the past?

Mr. SCHMITTEN. The latter part of the issue, let me guarantee you, yes, you can. It is certainly my approach to work together. Our solutions will be so much more founded if we do that, or at least we understand each other, where we differ. I don't know the details of the issue that you just laid out. I will certainly find out more about it.

As for instance of how we do work. We have had over 400 consultations now in the Greater Columbia Basin. Only 11 have reached jeopardy. Of those 11, we found reasonable and prudent alternatives to allow the project to continue.

So in effect, we have not shut down any projects that we have gone through the consultation process. It troubles me the scenario

that you laid out because it is simply not my standard of working with people and I will find out about it.

Mrs. CHENOWETH. Thank you. I appreciate your personal attention to what is happening to us in the northwest.

I do want to ask you with regards to the drawdowns of water that we are experiencing from our storage pools in order to issue this salmon smolt to the ocean, how is it that National Marine Fisheries Service can call on the water when the water is owned by the State or by the permit holders?

Mr. SCHMITTEN. Representative Chenoweth, I have lived all of my life, 49 of 51 years in the west, and I understand the very strong feelings toward both water rights and property rights. We have attempted to be very careful in observing the laws of the country as we approach the recovery plan.

I understand that certainly the salmon recovery is affecting many of your constituents, Washington State members, Oregon, Montana constituents. We have attempted, though, to approach this and design a recovery that no one constituency has to pay the bill, that if everyone gives something, gives a little bit toward that recovery, no one goes out of business, we recover the species, and that is what we have attempted to do.

This will be the second year that the fishermen off the coast haven't fished. Certainly your constituents in the drawdown are suffering, but if we can get through that together, we will not shut down businesses, close down resorts. We just simply all have to partner in their recovery.

Mrs. CHENOWETH. Mr. Schmitt, I would like to suggest that since the State owns the water or the water right holders own the water, that should the Federal agency want our water, then I would suggest that you do abide by the State law and either apply for it or work through our legislature or work through some lawful means, but just simply to call for our water and have it issued outside of our State is something I hope you will soon revisit because it is patently unlawful. Even the Supreme Court has ruled against that kind of taking by the Federal Government.

And I would like to say in closing, Mr. Frampton, I was in Riverside County, California. I was on the land with those homeowners who suffered and who lost their homes because of the kangaroo rat, and to have an agency say it just didn't happen is part of the reason those of us in the west are very frustrated. Your agency would not allow for the tall grasses to be either grazed or cut and with the horrible winds that blow down there in the dry season, the fires were out of control.

I talked to numerous people whose cars caught on fire as they were trying to drive out and escape through the fire. I would just invite you personally to go out to that area and examine it because I can tell you, sir, it did happen. Homes were lost because of the kangaroo rat.

Thank you.

Mr. POMBO. Mr. Faleomavaega.

Mr. FALEOMAVAEGA. Thank you, Mr. Chairman. I think if I were to catch the spirit of the hearing this afternoon, and by the way, Mr. Chairman, I do commend you for your leadership and your efforts in the past occasions that we have had hearings, field hear-

ings in other States and other jurisdictions, this being the final hearing of the task force, I want to commend you and thank you for this opportunity that I certainly have in serving as a member of the task force.

But I said, if we were to catch the spirit of what we are trying to accomplish here, I think as well stated by Chairman Young and Mr. Miller, as well as our Speaker, Speaker Gingrich in terms of what has happened over the years, ironically, that the Endangered Species Act came about during the Nixon administration.

Sometimes I think we make false stereotypes that because the President happens to be a Republican, they are anti-environmentalists, and I think that is a real false perception.

But, Mr. Chairman, my observation to the fact that we have got the Federal Government, we have got the local and State governments, we have got the private property owners, we have got the developers, we have got the environmentalists, we have got the recreational motorist, put them all together and we got quite a problem.

I was taken by Mr. Kourlis' earlier statement saying we should develop a partnership, but I am somewhat taken aback in realizing that it is bad enough that we have got five or six different groupings constantly at each other's necks when here we have got agencies within the Federal Government fighting each other, too, and I suggest that perhaps if Mr. Young was here, we ought to get a pair of boxing gloves and find out if the Forest Service or the Fisheries and Wildlife will endure or serve the better part of finding out exactly how we should enforce the Endangered Species Act.

And I just wanted to ask both Mr. Unger, Mr. Frampton, based on the concerns expressed earlier by Mr. Young, if you have resolved your differences or is the problem because of some weakness in the provisions of the act or is the problem just the stubbornness of the two agencies that can't seem to work this problem out as stated earlier by Chairman Young?

I would like your comments on that.

Mr. FRAMPTON. Perhaps I can clarify that colloquy. Before I do that, I would like to say that it is true that wildlife protection and conservation, including endangered species protection, has been a bipartisan program in the Congress and elsewhere for a quarter of a century.

There may have been some misunderstanding about the discussion we had. Chairman Young is upset because we are cooperating, not because we are at each other's throats.

It is precisely because we are cooperating and the results of the cooperation involve some set-aside of forest, in part to make sure that species are not placed on the endangered species list and that the wildlife protection aspects of forest management are taken into account. It is because we are cooperating that he is unhappy. He disagrees with us about the result.

This Administration has made sure that these agencies do cooperate. We have cooperated here.

We have come to a result which we are both comfortable with and which we think keeps species off the list. Chairman Young, we have a disagreement with him about the desirability of that result, but it is because we are cooperating that he is unhappy.

Mr. FALCOMA. Mr. Unger, could you address that because I think you were trying to respond—

Mr. UNGER. I agree that we are cooperating and that the discussion on this subject led to some misunderstanding because we are working together. I would say the degree of cooperation between these agencies and others involved with public land management is the best I have seen in many years in Washington and is improving.

I would just like to mention a footnote, and that is the Forest Service has to meet the requirements not only of the Endangered Species Act, but other requirements, the National Forest Management Act included, which has regulations that require that we assure the viability of fish and wildlife species within our national forests.

Mr. FALCOMA. Could you say that—I am sorry because of the time—would you say that perhaps the problem lies not with the regulators and the enforcers of the law; it comes right back to the Congress?

Mr. UNGER. Well, I don't want to say it in those terms. I do want to say that we have multiple responsibilities that deal with fish and wildlife species that go beyond simply the Endangered Species Act.

Mr. FALCOMA. Gentlemen, the train is moving and I just wanted to ask if the administration plans to offer any proposed amendments or any provisions to the Endangered Species Act so as to improve—make improvements upon the act. Is there any movement in the administration to do this while we are in the process of drafting or adding or making improvements to the act as well?

Mr. FRAMPTON. Yes. The administration put forward about three months ago a series of proposed changes to the Act that we think would make it work better, and take account of some of the problems and we are working on some additional possible suggestions, but we think we have put forward and offered a common sense reasonable set of reforms that would make this act work better for both species and for the regulated public.

Mr. FALCOMA. Just one more question, Mr. Chairman, if I may. Just 30 seconds.

How do you determine when a fish becomes a game fish as opposed to other fish that qualify for commercial sales or use? Is there someone there in the fisheries—I have a problem.

I have a fish in my district called the wahoo. It is a member of the tuna family, and somehow under our laws, because it is a game fish, I cannot hack it like tuna.

Why is this?

Mr. SCHMITTEN. Generally those rules and regulations are promulgated by the States. States manage within 3 miles; 3 to 200 miles fall within the jurisdiction of the Department of Commerce, National Marine Fisheries Service. Therein, if it is a species that we manage, those determinations are made by the councils.

These are federally mandated councils under the Magnuson Act. We usually have a list of affected parties knowledgeable and interested, fishermen and others, that make the call.

Mr. FALCOMA. I am going to call you, Mr. Schmitt. I am sorry. My time is over but I am going to call you on this.

Mr. SCHMITTEN. We will follow up on this.

Mr. POMBO. Thank you.

Mr. Hastings.

Mr. HASTINGS. Thank you, Mr. Chairman.

The testimony here today and the questions from all of the members, at least from my perspective, have tended to zero in on specific problems, and this is going to be the last hearing of the task force. I would like to ask some larger questions in general and I would like to direct them to Mr. Schmitt.

You were one of those that are charged with managing the Endangered Species Act. Let me just ask you point blank.

In your opinion, is the act working?

Mr. SCHMITTEN. I don't know anyone that says that the Act should not be improved or modified. Congress and the Administration are coming forward with proposals at the same time. I hope what we base our decisions on is what we have profited over the last 22 years of experience.

It seems, as the Speaker identified today, that it is a careful balancing between species' needs and human needs, and we need to become more efficient. We need to have better science in making those decisions and we need to be more collaborative. We need to include other people in those processes. I think that if we will focus our modifications in those areas, we will have a much better Endangered Species Act.

Mr. HASTINGS. Well, let me follow up on that because you mention that the administration is coming forth with some amendments to the act. Obviously in the testimony we have gathered a lot of information. If you were a benevolent dictator, I don't want to bestow that on you, but if you were, what is the single most important change, amendment that you would make to this act?

Mr. SCHMITTEN. That is difficult, but let me give you my feeling of that. I think that the Act needs to be retooled to focus on preventing listings rather than reacting after we have listed species. Many times we have reacted at a time and in that species life that there may not even be a chance to recover. Four Snake River sockeye salmon, three of which were males and one female.

We need to be much more proactive, and the other thing we need to do is allow the States a bigger role in the entire process, from listing to consultation to recovery, and we can do that I think by funding—in the Section 6 process, funding the States to be a full party.

Mr. HASTINGS. That is not happening now?

Mr. SCHMITTEN. That is not happening now. We have the tool within the Act. Simply it is not being funded to give the States a more paramount position in decisionmaking.

Mr. HASTINGS. Is a proactive part part of the amendments that are being offered by the administration?

Mr. SCHMITTEN. Yes. You will see that we are encouraging the use of habitat conservation plans. Fish and Wildlife should be complimented for the work they are doing currently.

We are catching up and attempting to do the same thing, but not only post-listing. I would like to see more prelisting where simply we can work with the States or an independent party and say, we

have a plan which, if we implement, there is no need to list the species.

Mr. HASTINGS. One of the things that I heard—this issue became—the Endangered Species Act became a very big issue in my campaign last time. In fact, it came so far that there was a suggestion that two dams be strongly considered to be torn down on the Columbia River because of the Endangered Species Act.

That obviously leads to a little bit of problem with my constituents. Nobody, I think, knowingly—and we have heard that testimony here, even from the Chairman—nobody here knowingly wants to see a species be in danger. We don't want to be responsible for that, but the question still is that I keep getting asked, and I think a lot of others are asked, is how much is enough? How do we have some certainty that there won't be a cost down the line that we will not be able to react to?

When I go home and say, we haven't been to the Endangered Species Act, what sort of certainty would you put into that so there is not a threat down the line? We talk about a five—Mr. Frampton talked about a five acre threshold. But just talking in general, what sort of certainty can we have?

Mr. SCHMITTEN. Let me answer first and put your constituents at rest. We have never proposed, suggested, or conceived shutting down, eliminating one of the main stem Columbia-Snake River dams. Those are billion dollar facilities that contribute to the lifeblood of the economy of the northwest. Certainly we expect better passage. We expect modifications of those facilities, but to scare people to think that we may suggest removing them simply we will not and never have done.

What certainty? That is exactly what landowners need to know. And I think that we as Federal managers have to say, if we enter into a partnership with a landowner, we enter into a conservation plan, our end of that deal is to provide that certainty that we would not anticipate, as long as the viability of the plan is working, additional requirements on that landowner.

In fact, if we can forecast other species' needs in that plan, we would not even anticipate other listings.

Mr. HASTINGS. I want to ask a real quick question. You mentioned a State partnership with the Federal Government. I know that some public utility districts in my district are doing some somewhat unique things with the salmon.

Would you envision or would you look favorably upon States opting out of the ESA if they had a plan that in your judgment was superior to the Federal plan?

Mr. SCHMITTEN. Absolutely. In fact, that is the purpose of Section 6, that if the States or private sector can put forward a conservation plan that is acceptable to the two action agencies, yes, that there is no need to list, and I think that is the bottom line question.

Mr. HASTINGS. Mr. Frampton, would you answer that question?

Mr. FRAMPTON. Yes, that is correct with respect to the existing law, and to some extent, we have structured situations in which we have delegated to the States the authority to take over the administration of a recovery plan or the equivalent, but the Administration has also proposed that the Act specifically be amended to allow

individual States, even where a species may cover four or five States, to come up with a State-wide plan for one or more species. If that plan is the equivalent of the kinds of protections that we would be looking for under the Endangered Species Act, then the effect of the listing would actually be suspended for that particular State.

So we can do some of that now, but we are proposing that the law be amended to specify how that would be done.

Mr. HASTINGS. That is part of the amendments that are coming down?

Mr. FRAMPTON. Yes, it is.

Mr. POMBO. If the gentleman would yield to me for a second.

Mr. HASTINGS. I don't have any time, but I would be happy to.

Mr. POMBO. Yes. Well, I am the one with the gavel so—and I just want to comment on something you said. A lot of times, you guys throw up your hands when he makes a statement like tearing down dams and you throw up your hands and say: I don't know where that rumor ever started, we would never do that. And the Secretary of the Interior was quoted as saying—and I am paraphrasing because I don't have the quote in front of me—something to the effect that he wanted to be the first secretary that oversaw the destruction of dams.

So when his constituents—when someone from one of the environmental groups out there or something says something about tearing down the dams that his constituents depend on, you can see how those get tied together.

Mr. FRAMPTON. The Secretary was misquoted. He was referring to two dams, the Elwa Klines dam, which we were directed by the Congress to study for demolition. They are unauthorized dams in a national park.

Mr. POMBO. I realize that he was not talking about the specific dams that Mr. Hastings is talking about, but you can understand how his 600,000 constituents get a little bit nervous when they see a quote like that and then they start talking about tearing down his dams, and there is a relationship between the two.

Mr. HASTINGS. Would the Chairman yield for a moment?

Mr. POMBO. Yes.

Mr. HASTINGS. The chronology of that is not exactly as you say it, and I will cite that as of the first part of August, there was a—it came from Fish and Wildlife to FERCA—to FERCA I should say, regarding specifically the Priest Rapids Dam and the Wanapum Dam. Now, this is the first part of August, and they suggested in the ESA for reauthorization under FERC that they strongly considered removing both these dams because of ESA. That was the first part of August.

It was not until the end of September that the Secretary at Jackson Hole suggested that he would like to be the first Secretary to tear down a major dam. Now, I would suggest to you the chronological time of that, when I would consider Wanapum Dam and Priest Rapid Dam to be two major dams, and about five weeks later the suggestion of the Secretary that he would like to be the first one to see a major dam removed. And I will tell you this. If you compare Priest Rapids and Wanapum with Elwa Dam, there is no comparison as to the size.

And when you say one of them is major, Elwa doesn't even stand up to either one of those two dams. So I would suggest to you there is some chronological difference there of opinion and frankly, I asked the Secretary that specifically at a caucus meeting here. He brushed it aside as it was just politics as usual, but I will suggest to you that is not at all the case that those along the—in my district felt during the campaign last time.

Thank you, Mr. Chairman.

Mr. POMBO. Mr. Thornberry.

Mr. THORNBERRY. Thank you, Mr. Chairman. I want to focus just a second on a little broader aspect of what you were just talking about, and that is the current system of heavy handed regulation really puts fear in people and so you get the incentive that is only half jokingly referred to as, you know, shoot them, bury them and forget it or some variation thereof, and where the incentive is to not find some sort of species on your land because it is only going to cause you trouble if you do.

As a matter of fact, the former State Director of the U.S. Fish and Wildlife Service in my State of Texas has said that the incentives are wrong here. If you have a rare metal on your property, the value goes up. If you have a rare bird, its value disappears, and it is exactly that situation that I think presents the sort of fear situation that you have because people are scared about government coming in and taking over their land or knocking down dams or whatever, and on the other side of that, I think the only solution is voluntary, top incentives to get government working with people rather than against people.

Now, I notice in the administration's 10 principles for a new Federal endangered species, one of those is create incentives for landowners to conserve species. I guess my concern is, from your standpoint, is that the centerpiece or is that something out there on the fringes?

Are we going to have to, in your view, continue to rely primarily on regulation, the Federal Government coming in and telling folks what they can and cannot do, or can we move to a system that relies primarily on voluntary incentives and only in highly unusual cases revert to the heavy hand of regulation.

Secretary Frampton, what is your view on that?

Mr. FRAMPTON. Well, let me try to answer the two or three questions that I think you posed.

To begin with, you are right, that there is an aspect, has been an aspect of the Endangered Species Act, that creates a perverse incentive to destroy habitat, and we are seeing that in the Pacific Northwest where there is concern about private landowners cutting private forestland before it gets to be old growth or has the structure to support owls for fear that it will attract owls, and before, a landowner would want to do that.

So both in the Pacific Northwest and in the Southeast, what we have done is begun to create these safe harbor programs to reverse that perverse incentive and to create a positive incentive, to say to landowners, if you sustain or enhance habitat and you attract endangered species, you will be held harmless for eventually driving them away or harming them if you cut your forestland or develop the land. Because in the meantime, the species will be benefited

and we will end up being better off in the long run. So that is a particular disincentive that we are trying to eliminate.

The larger question you ask is, do we want to rely more on incentives and less on regulation? The answer to that is clearly yes, and I will give you one particular example, and that is in the Pacific Northwest where we are negotiating multispecies habitat conservation plans, voluntary agreements with timber companies and with the States of Oregon and Washington.

There, the incentive for them is the opportunity to develop a forest management plan that may last 50 years and not only satisfies future Endangered Species Act requirements, the regulation that might come at them in the future, but also State forest practices and the requirements of other environmental requirements and buys 50 years of certainty in the timber program and also buys them the opportunity to be good stewards of their land and have a timber program that they design.

So there is a big incentive there for the companies, and from the species' point of view or the regulators' point of view, what we are getting is a lot more protection for the ecosystem than we would be getting through regulation.

Now, to conclude, though, in the sense of developing incentive programs that will cost money, you know, to the extent that we can provide incentive programs that reward through Federal dollars affirmative actions to protect species or habitat, we have got big problems because there aren't any Federal dollars. So as much as we would like to develop and encourage the legislation of additional incentives programs, we face some really significant funding barriers to that and that is a major problem here.

Mr. THORNBERRY. I just wanted—I think it is very important to recognize that you will never be—you and the Congress will never be able to hire enough enforcers to be as successful as we could be if we had landowners working with the government rather than against the government.

Let me ask one other question in the brief time I have left. You talked a little bit earlier about creating exceptions for small landowners, those people who had residential houses of five acres or less. I want to just weigh in on this.

That may be fine for the folks in suburban California, but that doesn't help the cotton farmer out there who tries to make a living off 160 acres in west Texas, and the idea that there are some special property rights for a small tract owner that do not go to a larger tract owner I think is a dangerous precedent, and obviously coming from my district, to have a greater burden on someone who is out there trying to earn his living solely off the land and not address his problem I think is going to be a big mistake, and so when you are looking at granting exceptions just for the residential home owner, I hope you don't forget about the folks who are out there trying to earn their living off the land as well.

I think that is something we have got to address when we rewrite this bill. Thank you.

Mr. POMBO. Mr. Metcalf.

Mr. METCALF. Thank you very much, Mr. Chairman.

My question, first question will be for Raleigh Schmitt, and Raleigh and I were products of the Washington State legislature and it is good to have you here back in the other Washington, too.

The question I have, this is an issue that I brought up at the ESA hearing in Vancouver, Washington, and we are deeply concerned about the rehabilitation of the Columbia River salmon and a lot has been said today about the sound science. Sound science is absolutely critical. And my question is a little complex so I will go over this.

The National Marine Fisheries Service has considered three different plans for the salmon recovery on the Columbia River and the Snake River systems. Two of these, the Crisp model and the Sam model are available for public review, all parts of them, all the calibrations, everything. The third leg of this, the flush model, has not, to my knowledge, been available to the public. That is, how they arrived, the details, and this is very important.

While the information from the conclusions of the flush model are available, and that says the conclusions, the data used for calibration doesn't seem to be available to the general public. In light of the fact that NMFS has considered the data from the flush model, that has been sort of chosen as the one we are going to use to rehabilitate the Columbia River, then I get real nervous about public policy for recovery efforts on the Columbia and Snake in light of the fact that the other two models are reviewed in the process, available in their entirety to the general public, and I would like to have you assure me that we can get all—every bit of the details from the flush model.

Mr. SCHMITTEN. Representative Metcalf, I have to dust some cobwebs off to remember all the models, but I do remember this. About three years ago when there was a controversy of the models and the different outputs and inputs, we funded a workshop to bring in the community to put all three models on the table to look into the bowels of those model to understand exactly what the inputs and the differences so people could evaluate how it determines or how it derives the recovery.

I am not sure the differences between those three. I can assure you that I will go back and I will make—I will ask if the flush model has had adequate review. If not, I will assure you it will. If so, I will provide that information to you.

Mr. METCALF. OK. I really appreciate that because I met with a professor at the Fisheries Department at the University of Washington who basically, we talked about the various models and he said he had been trying for months to get that and it was not being released, something about the tribes, that they had a part of it and they weren't going to release it or something. I don't know. But if you can assure me that—

Mr. SCHMITTEN. It potentially could be proprietary if it is held by the tribes.

Mr. METCALF. What was that?

Mr. SCHMITTEN. I said it potentially could be proprietary if held by the tribes. If I recall, the flush model is the State agency's and tribe's model and if the State agencies are involved, it is a public document.

Mr. METCALF. OK. That is the point I want to be very clear, because for my—as my opinion, if it was used as the model to develop public policy, it is public and we will get it. Is that—you have an agreement on that?

Mr. SCHMITTEN. Yes.

Mr. METCALF. We will get the details? Thank you very much because we have got a lot of people sort of worrying about this. I really appreciate that, Raleigh, and keep in touch with us on it as soon as you get information on that with my office.

Another question, this is mainly for I think Mr. Frampton. How many northern spotted owls presently live in the Pacific northwest? Do you have any idea?

Mr. FRAMPTON. I got asked that question yesterday.

Mr. METCALF. OK, good.

Mr. FRAMPTON. In another committee and offered to provide the number for the record, and I would do so again. I would just point out that the whole conservation strategy for the spotted owl is not really based on numbers. It is based on creating these areas.

We expect that the numbers will continue to go down over the next 10 to 15 years, would continue to go down even if another stick of timber weren't sold in the Pacific northwest off of public lands.

Strategy is based on creating a system of reserves that eventually brings those numbers back up to a stable base, about 15 or 20—beginning 15 or 20 years from now. But I will supply the best numbers we have for the record.

Mr. METCALF. OK, and also how many owls would you say are necessary to ensure the survival of the species? Frankly, it is my opinion that—and everything indicates that it was just poor science, very poor scientific data which led to the spotted owl fiasco in the Pacific northwest.

I have information that people have provided to me, there are lots and lots of owls. They didn't find them in the deep forests where they went looking for them because they took deep forests to look in. The fact is they don't live much in the deep forest.

They live more in the other areas, and that there are a large number of owls in that area, and I would like to have—let's get some real solid scientific information so that we cannot have these stories going around in different ways.

Thank you very much.

Mr. POMBO. Thank you. Mr. Frampton, you state in your written testimony that some of the ESA horror stories were clearly exaggerated or false, and I would like you to provide for the record which of the stories that you feel are clearly exaggerated or false, and if that was testimony that we heard on this task force in previous hearings that you feel is exaggerated or false, if you could provide that for us for the record.

Mr. FRAMPTON. I would be glad to do that.

Mr. POMBO. Also, any member that wishes to submit further questions to this panel can provide them to the panel in writing and they—and I would request that the witnesses answer those for the record and for the individual members that ask questions as soon as possible.

Thank you. Thank you very much for your testimony and for answering the questions.

Mr. FRAMPTON. Thank you very much, Mr. Chairman, for your consideration.

Mr. POMBO. I would like to call up our second panel, Dr. Daniel Simberloff, Dr. Patrick Kangas, Dr. Terry Maple, Dr. Nicholas Wheeler, Dr. Dave Cameron, and Dennis Avery. Thank you very much. I appreciate your patience in dealing with the task force.

I would like to recognize Dr. Simberloff to begin his testimony and, again, I remind the witnesses that your entire statements will be included in the record, and if you would summarize them to conclude within five minutes, I would greatly appreciate it.

Thank you, Doctor, you may begin. Welcome

STATEMENT OF DANIEL SIMBERLOFF, FLORIDA STATE UNIVERSITY

Mr. SIMBERLOFF. Thank you, Mr. Chairman, and also other members of the committee for letting me speak to you briefly about scientific issues relating to endangered species. The problem is, in a nutshell, primarily habitat. Over 700 species are listed, and for about two-thirds of those, the reason why they are imperiled is habitat destruction.

It is a crisis. Even though species have always gone extinct in the past, they are doing so at much greater rates now. One example that makes this point is that about 500 species of plants and animals have gone extinct in the United States in the past 400 years. All but one of those are believed to have gone extinct because of human actions.

Just in the last three centuries, worldwide, we have lost 60 species of mammals and about 120 species of birds, and these are groups that we know very well; it is not just a problem of underdeveloped countries. In the United States, we have lost, in the last 100 years, 18 bird species, 17 freshwater fish species, and over 200 species of plants, and presently, about a third of all our plant species are imperiled and about 22 percent of our vertebrates.

What can science do to help deal with this problem? Conservation science has developed very rapidly, and I think that conservation scientists are now very good at determining the causes of endangerment and extinction. I have occasionally heard people complain that conservation scientists are the reason for the extinction crisis on the grounds that they don't know what to do to save endangered species. This really isn't true. Conservation biologists generally do know how to save endangered species, but the task that is assigned to us isn't exactly that. It is not only how to save species, but at the same time to preserve some level of human activity.

So the considerations are usually primarily economic, sociological, et cetera, not only scientific, and we are asked to figure out how to solve them very quickly, often in a matter of a few months. I submit that, if physicians were given just a few months to understand what was causing a disease and figure out a cure and were forced to administer the absolute minimum of a pharmaceutical that might give a fair chance of survival; then their failure rate

would be very, very high, but that would not mean that medicine is a poor science.

I think that recent conservation biology teaches five main lessons for dealing with endangered species. The first one is the very one that is emphasized in the National Research Council report, which was released yesterday, and that is the critical role of habitat.

Because habitat destruction is the main cause of species loss, in order to save species, we must protect their habitat. Fortunately, many endangered species have the same or very similar habitats, so large groups of species can be maintained together in the same habitat. Sufficient habitat conservation is going to require lots of partnerships among Federal, State, and private landowners. Only about 50 percent of all currently listed species occur on Federal lands.

Again, I must emphasize that because many endangered species exist in clusters, the same habitat can serve multiple duty for many of them.

The second point that I would like to make is the phenomenon I call the "death from a thousand cuts" phenomenon, that is, the often-deadly cumulative impact of many small losses of habitat, no one of which would seem to be enough to push a species irrevocably onto the path of extinction, but that all together are lethal.

For example, some species consist of groups of populations with occasional movement between them. Occasionally a population goes extinct and then it is replenished by movement from other populations. As we lose populations, we reach a situation in which there is no more movement, and the whole species collapses.

Captive breeding will not help too much in this situation. It is much too expensive. In addition, as species are captive bred, they become unadapted to life in the wilds. Already, some species can exist only in zoos and parks. Some of these take enormous amounts of land, like the European bison, a very good example.

Augmenting natural populations has its own threat, because the genes that are brought in by interbreeding the individuals that are captive with the wild ones often destroy the adaptations of the wild population and often produce the kinds of species we don't want. This has happened to the coho salmon, for example, which has turned into a wimpy fish because of continued interbreeding with hatchery-reared stocks.

The fourth point is that we must consider population trends, not just sizes. It is well recognized that most of the listed species were listed when the populations sizes were already very small; the NRC report elaborates on this point. In some instances populations that seemed quite substantial have seemed to go extinct before we really noticed there was a problem.

All it takes for species to be among the "living dead" is an average death rate slightly higher than the average birth rate, and we wouldn't see this pattern for a very long time. So we have to do demographic studies and this is going to take a while, especially for long-lived species.

My last point is that there are often crucial interactions among species such that one or several species require another species for continued existence. We often learn about these cases inadvert-

ently, when one species disappears and we have major problems with the entire ecosystem or with other species.

We do know how to conduct the kind of research that will reveal what these relationships are. There is a long tradition of meticulous experimental work on this kind of problem, but it takes a good while, cannot be done very quickly, and is expensive.

So to sum up, I believe that conservation science can offer a lot in designing endangered-species legislation and regulation that can help maintain endangered species, but it is not going to give cheap, quick answers.

Thank you very much for your patience.

[The statement of Mr. Simberloff may be found at end of hearing.]

Mr. POMBO. Thank you. Dr. Kangas.

STATEMENT OF PATRICK KANGAS, NATURAL RESOURCE MANAGEMENT PROGRAM, UNIVERSITY OF MARYLAND

Mr. KANGAS. I appreciate the opportunity, Mr. Chairman, to present some comments about the Endangered Species Act. I am an ecologist and I have conducted research on a variety of aspects of ecosystems.

I do not have any direct experience with the Endangered Species Act, but I have worked on modeling extinctions in the tropics and I have presented a brief document that tries to receipt that experience to the Endangered Species Act.

Basically, the tropics are where the highest level of biodiversity exists on the planet and a very critical area that ecologists need to be concerned about. I became interested in the issue of the extinction rate in the tropics and discovered that it is a very difficult process to quantify and the best science that we have been able to do on a large scale has involved models, and this is a rather imprecise approach but is necessary in the tropics where biodiversity is very high.

I think one of the interesting things that has come about in the tropics is the very high estimates that have arisen and this has alarmed me. I think that to some extent there has been an exaggeration of extinction rates in the tropics, and while there is not very good scientific data to really say what these extinction rates are, I worry that if we do exaggerate these extinction rates, that that may affect the way that we are able to do conservation, and I think the critical aspect is that our conservation resources are limited and we need to find the best ways to use those limited resources, and so I am worried about this issue of exaggeration.

In terms of what is taking place in the United States, I think we are in a much better situation. I don't think that extinction rates have been exaggerated in this country.

I think we have a much better handle on our own biodiversity, although that is still very much limited in terms of its science also, but we are much better off than the tropics in general and I think that we can perhaps reflect on the tropical issues and reach a few conclusions, one of which, because we have more information, I feel that we are obliged to use that in making the best policy that is possible. We don't have that luxury in the tropics.

Also, I think from the tropics, because of the very high diversity, I think it is very difficult to work at conservation at the individual species level, at which the Endangered Species Act works. I think in the tropics, we will be forced more and more, and have been, to deal with larger scale levels of hierarchy of biodiversity and I think that is one of the directions that perhaps the Endangered Species Act should go. And I suggest the landscape level as a very important level of biodiversity.

And finally, I think that one of the directions of the science about tropical biodiversity that we see is shifting away from trying to estimate extinctions, because that is very difficult and also perhaps not the best way to do conservation, and an increasing interest in sustainable development, and I think this is a very exciting conservation approach.

In particular, we try in sustainable development to get away from the idea of environment versus the economy, and I think the comment that was made earlier about under the Endangered Species Act, if you find a rare species, it makes the value of your land go down, that is just exactly the opposite of what sustainable development tries to do.

In this approach, we try to show the value of the biodiversity and work with communities to exploit that value through various kinds of industries that might market nontimber resources and ecotourism and other approaches. So I think there are perhaps a few things we can learn from the tropics to improve the Endangered Species Act and I am pleased from the earlier panel to hear that many of those things are taking place.

Thank you.

[The statement of Mr. Kangas may be found at end of hearing.]

Mr. POMBO. Thank you. Dr. Maple.

STATEMENT OF DR. TERRY L. MAPLE, ZOO ATLANTA

Mr. MAPLE. I am truly grateful for the opportunity to discuss the Endangered Species Act today and the reasons that I support its reauthorization. For 20 years I have been a college professor teaching courses in environmental psychology and animal behavior to both undergraduates and graduate students.

I have taught on the west, where I was raised, at the University of the Pacific and the University of California, Davis, and in the south at Emory University and Georgia Tech. For the past decade, I have been employed as the chief executive of Zoo Atlanta.

But I spent a fair amount of time as an ivory tower theoretician. My recent experience required that I meet a payroll, balance a budget, plan strategically, set priorities, recruit and manage talent, market a product and make hard business decisions daily. In my wildlife travels I have enjoyed pristine wilderness and I have suffered within the most degraded and dehumanized landscapes. The contrast is instructive.

More than ever, we need to vigorously protect our world heritage of wildlife ecosystems. Zoos and aquariums are institutions that represent the interests of wildlife and the people who value and enjoy it. I manage one of the world's leading zoos, an enterprise whose employees work every day to actively share the joy and the wonder of wildlife.

Nearly a million people will visit Zoo Atlanta this year, while 40,000 households are paid members in our local support group to Friends of Zoo Atlanta. Our nonprofit corporation is comprised of 115 full-time staff, more than a thousand trained volunteers, and 150 seasonal employees, with an operating budget which exceeds \$9 million.

Zoo Atlanta is a cultural institution in the business of managing, propagating, exhibiting, and conserving wildlife in zoos, parks and reserves. We aim to educate, inspire and provide entertainment and recreation for our visitors.

Zoo Atlanta is also acknowledged as one of America's most successful public-private partnerships. The zoo receives no operating subsidies from local or regional governments and a corporate fundraising campaign led by Georgia Pacific chief executive A.D. Pete Corell has raised nearly \$10 million this year. We are business minded, market driven, mainstream conservationists and we have significant clout in our community.

I offer this background to demonstrate that a corporate orientation is not incompatible with the protection of wildlife and wildlife ecosystems. Our visitors and our corporate donors consistently support our programs and our values.

They are partners in our continuing efforts to educate our community about the importance of biodiversity and the permanence of extinction. We work to ensure that our children and grandchildren will be able to witness beluga whales, giant pandas, mountain gorillas, elephants, salamanders and other living creatures in a State of nature.

We cannot be satisfied to preserve a few specimens in our zoos. We must preserve healthy populations of such creatures in their range countries. It would be a monumental tragedy if zoos and aquariums were to become the last refuge for endangered species. And we cannot let this happen.

We must help to save gorillas in central Africa, whales throughout their aquatic range, pandas in China, and elephants in Africa and Asia. We must also save our local animals in Georgia, the manatees, the wood storks, the indigo snakes and the like.

Zoo animals can be regarded as effective ambassadors for these wild living kin. We are driven to save them for their own sake, but we do it also because our community demands it. America's Endangered Species Act is an important tool in promoting a conservation ethic.

It has been argued recently that we can relax our standards of protection because many species now can be propagated in captive settings. I am here to report that zoo and aquarium directors are the experts on much of captive propagation, and we have concluded that captive breeding is not a panacea for the protection of endangered species.

It is certainly true that zoos have mightily contributed to saving the American bison and the California condor, to name a few. But many other species have proved far more difficult to breed in the zoo.

More than 170 accredited zoos and aquariums in America do not have sufficient space or financial resources to manage multitudes of endangered wildlife. The critical list is simply too long, and our

technology, too primitive. In the nearly 1,000 organized zoos of the world, we estimate that only 1,000 to 2,000 healthy, managed populations of endangered species could be accommodated in the available space.

We will continue to study endangered small populations, to refine and improve our technology for captive propagation, but we must also preserve natural populations and habitat.

We also recognize that reintroduction of captive-bred wildlife has proved far more challenging than we expected, and it may be generations before habitat can be sufficiently rehabilitated to accept the offspring of rescued wildlife.

We should not make our stand in zoos. Instead, our first priority must be the preservation of wildlife ecosystems. No zoo can protect and nurture mountain gorillas as effectively as the Karasoke in Rwanda. In this part of the world, turmoil surrounds this national park, threatening its survival and the creatures within. But it is precisely within this vulnerable ecosystem that our commitment to protection must be confirmed. There are only 650 mountain gorillas left in the entire world. None of them reside in captivity.

In some cases, captive breeding is helpful, but it is by no means our first priority. The California condor reminds us that this animal cannot be separated from its habitat. We have experience in reintroducing wildlife, like peregrine falcons, like more land crocodiles. It is a challenging process, and we have a long way to go.

In operating zoos and aquariums in this country, we have learned that the public wants to live in a natural world, a world abundant with a diversity of wildlife and ecosystems that support it. We have learned this by studying our customers, the 120 million Americans who visit zoos and aquariums annually. It is the mission of zoos and aquariums to contribute to public education, conservation, science and recreation. As zoo and aquarium professionals, we strongly agree with the preamble of the Endangered Species Act, which recognizes that endangered wildlife and plants are of esthetic, ecological, educational, historical, recreational and scientific value to the Nation and its people.

The esteemed conservation biologist, E.O. Wilson, has classified our natural resources as biological wealth. His words are compelling. Native species are a part of our heritage. They are venerable almost beyond imagining, present on this land thousands to millions of years before even the first Native American arrived. The average life-span of a species and its descendants, before humanity, was 1 million to 10 million years.

Each species of animal, plant and microorganism is a masterpiece, assembled by vast numbers of genetic mutations, tested by natural selection, and fitted to a particular niche in the environment. Its genes are a library of priceless genetic and ecological information, available to us at no greater price than the effort to keep the species alive.

Today, as we contemplate reauthorization of the Endangered Species Act, it may be useful to consider the experiences of one of America's greatest conservationists, mentioned earlier by Speaker Gingrich. I am speaking of Teddy Roosevelt. In his acclaimed biography of Roosevelt, Edmund Morris wrote, for the first time you realize the true plight of the native American quadrupeds, fleeing

ever westward in ever smaller numbers from men like himself. By 1887, the ravages were plain to see. Roosevelt was now in his 29th year and the father of a small son. If only for young Ted's sake, you must do something to preserve the great game animals from extinction.

Fortunately, Roosevelt was a man of action. His legislative record at the State and national level is a monument to his commitment to conservation.

Clearly, endangerment is not a new issue. In fact, we have already lost an estimated 1.5 percent of the 100,000 recognized species of American wildlife since the European colonization. There is no disagreement among the world's scientists that the pace of species extinction is accelerating.

The protection of wildlife is never easy, but I believe that we can develop a win-win conservation strategy that will work for wildlife and for people. If we tinker with the Endangered Species Act, we may be able to improve it, but we must be careful not to render it ineffective at a time when pressure on wildlife is greater than ever before.

Responsible Republicans and Democrats have offered constructive criticism of the act as it is currently constituted. We can build on this. We also consult our most trusted experts in wildlife, biology and public policy. There is broad agreement that the Endangered Species Act must be based on sound science, that it must be fair and flexible.

In the American Southeast, for example, the Georgia Pacific Company is already engaged in logging while protecting the habitat of endangered woodpeckers. This demonstrates that industry and government can successfully craft policies that will work for wildlife and for people.

I agree with Speaker Gingrich that our policies should be driven by incentives and not penalties. Surely we are smart enough to make the Endangered Species Act work throughout the Nation. Thank you.

[The statement of Mr. Maple may be found at end of hearing.]

Mr. POMBO. Thank you.

Mr. POMBO. Dr. Wheeler.

STATEMENT OF DR. NICHOLAS WHEELER, WEYERHAEUSER

Mr. WHEELER. Thank you, Mr. Chairman, and members of the Endangered Species Task Force. Weyerhaeuser Company appreciates the opportunity to comment on our experience in growing yew trees as a source of the anticancer agent Taxol. I would like to summarize my written testimony comments.

I am a senior scientist with Weyerhaeuser Company, and my background is in plant breeding and population and ecological genetics. I have been the principal investigator in our Taxol project since 1987.

Weyerhaeuser is an international forest products company whose principal businesses are growing and harvesting trees and manufacturing, distributing and selling forest products. We own and manage approximately 5.6 million acres of timberland in the United States, half of which, roughly, is in the Northwest and half of which is in the Southeast and mid-South.

On April 24th, Weyerhaeuser provided written testimony to this committee regarding potential improvements to the ESA. Today, however, I wish to speak specifically to our experience in cultivating yew species in a nursery setting as a source of Taxol.

Although the anticancer drug Taxol is a relatively new commercial product, it has literally been under development for over 30 years. Today it is considered to be—by clinicians, to be a very important tool in the chemotherapeutic treatment of ovarian and breast cancers, and is showing considerable promise for treatment of other tumor types, most of which are still under study.

Taxol was discovered in the 1960's, early in a survey of plants that was being conducted by the National Cancer Institute's Natural Products Branch. Of the over 16,000 species ultimately that were looked at and some nearly 114,000 extracts derived therefrom, Taxol is the only compound to have ultimately reached market in the anticancer drug field. Development of Taxol was impeded during those years by difficulties encountered in sourcing the compound in the wild.

In 1991, roughly—or early 1991, the NCI awarded a cooperative research and development agreement to Bristol-Myers Squibb, hopefully to hasten the development of the compound. And in December of 1992, the Food and Drug Administration gave new drug approval to Taxol.

Up until December of 1994, the only approved source of Taxol for clinical use was from the bark of the Pacific yew. At that time, however, Bristol-Myers Squibb received approval of a semi-synthetically derived Taxol. This is Taxol derived from—through a chemical process, converting other similar compounds also derived from the biomass, needles and twigs of other yew species. However, it is felt by some that there will be continued pressure on the bark of the Pacific yew by other companies hoping to enter the generic drug business in the future.

When Weyerhaeuser initiated our Taxol program in 1987, we recognized there were several potential alternatives to the use of native Pacific yew bark as a source of Taxol. Taxol could be derived directly from renewable tissues or biomass of other wild-grown yew species, or for that matter, from plants cultivated specifically for that purpose. It could be derived semi-synthetically, as I mentioned, from related chemicals, also obtained from yew biomass. It could be derived potentially from a cell culture, and of course there is total synthesis.

Weyerhaeuser has focused its attention on nursery cultivation, one of our core businesses and areas of expertise. The goal of our Taxol program is to provide, through intensive cultivation of yews, a long-term, reliable, economical supply of Taxol and other desired taxane precursors, for semi-synthetic production of Taxol. We chose this approach because we were concerned that a long-term harvest of Pacific yew would be detrimental to the species' integrity, and because cultivation offers many efficiencies for the production of natural products.

To accomplish our goals, we initiated an aggressive research project—program in 1987 and a production program in 1990. Our research and production activities have focused on identifying the best genetic materials for cultivation, identifying the best tissues to

harvest, the best time to harvest them, and what environmental factors most influence Taxol levels in plants, developing reliable propagation and cultivation methods and developing appropriate harvest and processing protocols to ensure that the biomass has high taxane content at the end of the process.

In summary, since the start of our yew Taxol program, Weyerhaeuser has grown more than 12 million yew trees at nurseries in the Pacific Northwest. These trees are harvested on a three- to five-year rotation, not decades as it takes to grow trees in the forest. While we possess the largest genetic collection of Pacific yew in the world, virtually all of our production populations consist of yews of other species.

We believe that intensive cultivation of selected yew genotypes can provide a long-term, reliable and economic source of Taxol and a means of contributing to the conservation of worldwide natural yew populations through the use of a renewable, sustainable, cultivated yew resource, managed under strict operational controls.

Weyerhaeuser's success with cultivating yew and developing alternative ways to produce raw material for Taxol is but one example of how landowners can address issues of threatened and endangered species. We have been able to lend our considerable expertise gained from decades of research and management of our private forestlands to this important effort.

For the same reasons, the company has been able to develop and implement solutions to concerns over wildlife habitat. We feel the key to being able to apply these types of solutions is in having flexibility in our management of private forestlands and to being responsive to changes in markets and external forces and public opinions.

Thank you.

Mr. POMBO. Thank you.

[The statement of Mr. Wheeler may be found at end of hearing.]

Mr. POMBO. Dr. Cameron.

STATEMENT OF DAVE G. CAMERON, RETIRED WILDLIFE GENETICIST

Mr. CAMERON. Thank you, Mr. Chairman. I hope my few words will be appropriate and useful.

Like the gentleman who sat in this chair in the previous panel, I am wearing two hats this afternoon. I am a recently retired biology professor from Montana State University, spent much of my life trying to examine and interpret the genetic diversity that lies within populations of wild species in Montana, Colorado and Wyoming. From time to time, the investigations of my students and colleagues and I have been useful to State and Federal agents who have been attempting to interpret their mandates under the aegis of the Endangered Species Act.

But it is not in the context of a scientist that I am here this afternoon. I simply have a little story to tell you. In my role—or wearing the hat, if you please—of a free enterprise commercial rancher, third generation rancher in the last best place, Montana—it is in this context of ranching that I ran up against what I think are some unfortunate aspects of the Endangered Species Act that I hope can be removed as you consider revisions of it.

The Camerons have had a long history of supporting and taking care of wildlife, sometimes to the consternation of our neighbors who think we overdo it. In this wildlife restoration activity that we have done—and I hope to continue in this—I had always been concerned about the absence of a fish, the Montana grayling, from a blue ribbon trout stream that runs through our property. The grayling is a relative of the salmon, and was in the upper Missouri tributaries when Lewis and Clark came through. It is now quite rare and limited to just a few tributaries.

I sought the help of my colleagues at Montana State, who—one of them is an expert on the habitat of the Montana grayling, and we tromped over the ranch to see if there wasn't a tributary of the creek that might prove to be a satisfactory home for the Montana grayling.

Much to my delight, my colleague determined that Elk Creek was probably an appropriate habitat and stood a good chance of supporting grayling if we took certain measures. It kind of tickled me, because he added that this was a better habitat than any that Ted Turner had in his 110,000 acres, and if you one-up Ted Turner, it is not all bad.

Anyway, we set in motion, got approval, got the cooperation of the Fish and Wildlife and Parks Departments of the State of Montana. Friends volunteered, and we felt very well about ourselves, we were about to do a good deed. Then one day my colleague came to me with a long face and said, Dave, I have got to tell you something; it appears that the Federal Wildlife Service is threatening to take over management of the Montana grayling. They might list it any day now, and you have got to think about the consequences of this.

So I talked with—quietly, with members of the State fish and game department, with some Federal people, and asked what the worst-case scenario might be. And it was terrifying to me. Seven or eight families earn their living through the salaries they earn working for us, and I have a brother and sister who share stock in this family corporation, and I knew I can't take the chance that somebody is going to start telling me how to manage. So very reluctantly, I withdrew my support for this project.

And I simply can ask you, ladies and gentlemen, how many times do you think this sort of thing has been repeated throughout the country? How often have people felt terrified by the consequences of supporting some poor creature on their habitat that they are responsible for managing? I think it is more often than you may think. And it is just one more step to proceed from failing to do a good deed to worrying about, hey, I have got something here which is pretty uncommon, maybe I had better get rid of it before somebody declares that it is an endangered species. And I know that that has gone on.

So I request that you get the punishments out of the law and do everything that you possibly can to provide incentives to people like me and thousands and thousands of others who would cherish and harbor these organisms if they weren't threatened by them.

I have a couple of recommendations that are in my written proceedings that I hope you will read. Firstly, I think that ecosystem management is a very, very local thing. You must get local people

together to think about the compromises that must be made to achieve certain ends. I belong to a management group that has worked for six years. We have a complicated region with a wilderness area nearby and State game ranges and private land and Forest Service and school trust lands. And when we got through posturing, we realized that we all had a common interest in a healthy environment. We all had a common interest in biodiversity. Help us to continue in these practices; to promote them.

My second admonition would be to please practice what you preach. I live near Yellowstone Park. It is a grazing disaster zone. Any range manager who looks at that shakes his head. If we were to manage our lands as Yellowstone Park has been managed, we would not only be broke, but we would be subject to ecoterrorism. It is awful.

Thirdly, I would hope that you would use incentives to promote what we all want, a healthful environment. They are out there. They all don't have to be monetary, but at least get rid of the punitive aspects of it.

And then finally, as a scientist, I want to caution you that scientific communities, societies, are politically posturing. I used to belong to the Society of Conservation Biology. A year-and-a-half ago, they passed a resolution to the effect that they were passing on to Interior the recommendation that some 20 to 30 million acres of CRP land should never be grazed.

Now, that is pure politics. It has absolutely nothing to do with science. It is antiscience; it is stupid. I think Dr. Simberloff would agree with me. Be careful what you want to hear, because scientific communities will tell you what you want to hear, I am afraid to say. Just a warning.

Thank you very much.

Mr. POMBO. Thank you.

[The statement of Mr. Cameron may be found at end of hearing.]

Mr. POMBO. Mr. Avery.

STATEMENT OF DENNIS T. AVERY, THE HUDSON INSTITUTE

Mr. AVERY. Thank you, Mr. Chairman. As an international food and natural resource analyst, I appreciate the opportunity to highlight the importance of high-yield farming and high-yield forestry in saving world wildlife, and to note that it makes no sense to look at wildlife preservation only as a national matter.

I fear that in that international context, the U.S. Endangered Species Act has so far provided only a trivial and wrong-handed approach to preserving world wildlife. I am afraid that means the problem of saving wildlife species on the planet is even broader and more complex than today's discussion.

The Endangered Species Act, as written, has failed to restore threatened U.S. wildlife species and has put even more pressure on tropical species. To date, it has thus been a lose-lose proposition for wildlife.

We don't have a choice about feeding humans in the world. If we don't grow crops, the people of the Third World have demonstrated that they will hunt down every wild creature for the stew pot, and then plow their habitat for low-yielding crops. Thus, food produc-

tion does and will dominate the world's land-use decisions, in addition to occupying a third of the Earth's surface.

Because of America's unique resources for sustainably producing food and forest products, the ESA needs to take broader account of threatened species throughout the world. To save world wildlife diversity, in fact, the U.S. should probably be producing more food and timber and exporting them to other countries.

Our own biological diversity is small by comparison to many of the countries on the planet. While the ESA has focused heavily on maintaining subspecies and even minor populations in America, it has too often done so by suppressing America's ability to supply food and forest products for which tropical forests and wildlife species are being sacrificed elsewhere.

We have a unique endowment with prime soils and temperate climate. When American preservation policies function to increase the burden of logging and farming in tropical forests, they reduce rather than enhance the chances that we will find cures for cancer and other diseases among the wild genes in the rain forests or other reservoirs of biodiversity.

Naturalists agree, and it has been said here today, that preserving habitat is the most critical element of preserving species. High-yield farming is already saving an estimated 10 million square miles of wild lands worldwide from being plowed down for food. It takes the land, in fact, with the least biodiversity, because the best land inherently has the fewest species on it naturally. Yet our government policies in this country are discouraging high-yield farming and farm trade.

The so-called Conservation Reserve has taken more than 20 million U.S. farming acres out of production without creating even worthwhile wildlife habitat on them. And when a farm acre in California is shut down to preserve the kangaroo rat, the final result is probably that it plows down three lesser acres somewhere in the tropics.

U.S. forests have been put off limits to logging without altering world timber demand, so the timber has been provided instead from tropical forests or from Siberian slow-growing trees that may not be replanted. More species might have been protected by logging more of America's second-growth Douglas fir or fourth-growth longleaf pine.

I would like to emphasize—I can't be as eloquent as Dr. Cameron, but I would like to emphasize that the command and control regulatory approach has turned farmers all over this country into fearful enemies instead of conservation allies. Farmlands have been effectively seized as wetlands, when they could not possibly provide critical wildlife habitat. Landowners who created attractive wildlife habitat have often lost the use of their land.

Command and control has worked indifferently well, even in big factories where the regulators could see what was happening. It has almost no chance of giving us maximum conservation in the world's remote fields, pastures and forests. Like it or not, we are critically dependent on the enthusiastic cooperation of farmers, ranchers and foresters to save species.

Thank you.

Mr. POMBO. Thank you.

[The statement of Mr. Avery may be found at end of hearing.]

Mr. POMBO. I don't know where to start here. I think I have heard the entire debate on the ESA on this one panel, right here.

Dr. Simberloff, one of the proposals that has been put before me and that a number of biologists and scientists have talked about is, again, the need to protect biodiversity, to protect certain "hot spots," so to speak, across the country that are biologically diverse and to put our emphasis on protecting areas that are as biologically diverse as possible. And I think you heard Mr. Avery talk about the difference between diversity on land which has been farmed for 100 or 150 years and other areas which may have more importance in terms of their diversity.

If we were to look at species protection and biodiversity protection from that approach, how much acreage are we looking at in terms of protecting and what would be a biologically diverse "hot spot," for lack of a better term?

Mr. SIMBERLOFF. I agree with the proposal. To my knowledge, the data to assess it exist for only one State, the State of Florida. The biological survey of the Florida Game and Fresh Water Fish Commission has very accurate data on the location of species and communities throughout the State, and they are all mapped in a geographic information system. These data were used to estimate what would it take to save all of the endangered and threatened species in the whole State of Florida, and here is the answer: First of all, 20 percent of the State is already in Federal and State ownership that has some conservation mandate. It turns out that another 13 percent of the land area would be required to ensure saving every single one of these threatened and endangered species. Further, more than half of our listed species—and Florida has more than most States—are in a few small areas in a region called The Ridge of the State of Florida, where there is a specific kind of habitat, and a very large fraction, more than half of the endangered species, occur only in these small areas.

A large fraction of the 13 percent that would be required in addition to the already government-held land would be for one species, the Florida panther.

So in answer to your question, here is a real hot spot. The total acreage would be a few tens of thousands of acres that, although a number of species are not included, would encompass more than half of our listed species.

Until we have a similar analysis for every State in the country, we can't give a full answer to your question, but I think it is an extremely promising approach.

Mr. POMBO. And I am familiar with what you are talking about. I read some of your work on this and what has happened in Florida. Just so I didn't misunderstand you, you said tens of thousands of acres—10,000, 20,000, 100,000?

Mr. SIMBERLOFF. Less than 100,000, more than 10,000, on this ridge. There is not that much land left. Many of these species are on very small refuges, many of them owned by land trusts or by the Nature Conservancy. Much of this land has already been turned into citrus grove, and now it is undergoing residential development. So we are talking about a few tens of thousands of acres for about half the species that are listed.

Mr. POMBO. So if you could take the publicly owned land in Florida and redistribute it to what would be the most biologically diverse areas, and you protected that ridge line and put our focus on doing that, with the knowledge that we have limited resources—we have limited ability to go out and say we are going to protect 100 percent of every species that exists within Florida, but we want to do something to protect the biodiversity of it and redistribute those resources so that we could protect the biological hot spots, so to speak—that would be a possibility of doing with little or no economic dislocation in the State?

Mr. SIMBERLOFF. I believe it would be a very cost-effective approach. The State of Florida has a large bond issue, as you probably know, that generates about \$100 million a year for purchases for conservation and recreation lands.

Of course, with the land values in Florida, it doesn't buy as many acres as one would think, but every year proposals for purchases, including many for conservation, come to this fund, and some of the purchases are on that ridge exactly because they will maintain a disproportionately large number of species.

That will be a very cost-effective way to deal with this problem.

Mr. POMBO. You know, one of the—I think Dr. Maple may have a little bit of experience with this. One of the problems that we have in California right now, one of the things that we are going through, and particularly in my area, is we have a bird which is the Swainson's hawk, and we are on the very edge of its habitat. And in fact we are kind of an oddity in its habitat, because the majority of its habitat is through the middle part of the country, and there is just one little place out in the Central Valley of California where it migrates to.

We are spending a great deal of money mitigating our impact on that particular bird. And I would put the argument out there that instead of protecting the edge of that habitat, that that money and time and effort that we are putting into that may be better spent on protecting something else in terms of setting aside a conservation area, a biologically diverse area to protect.

And it may be our focus is mishandled. I think George Miller brought this up earlier when he talks about, you know, the moving goalposts. You know, when you go in and try to get a permit to do something, all of a sudden you are within—you are within a new habitat area that someone has come up with. And I don't know if you have the experience with the birds in San Joaquin County when you were out there.

Mr. MAPLE. No, I didn't, but I do have experience in setting priorities, and I think that is really the issue here. The science can be debated; you know, everybody talks about sounder science.

One of the best ideas I have heard yet is this new proposed Institute for—National Institute on the Environment, which might promote more objective science or what some people think is a more objective form of science. I think science is severely underfunded in this country, and oftentimes it is hard to find the answers. But, you know, if we agree on the science of it, endangerment should be an objective process. It then is a matter for all of us to set priorities.

And there are tough issues. Sometimes you have to make hard decisions, and as you say, you have to weigh the value of this effort to mitigate versus protecting something that may be more valuable. And I don't think we can have everything we want. We are going to have to make some tough calls.

Mr. POMBO. You realize—and I am sure you do, Doctor—but under the current act, that is not really possible. Because once it is on the list, it is—you know, regardless of what our priorities are that we have established, the list dictates that we have a full-blown recovery effort in what in this particular instance is a localized—you know, unique localized species, subspecies.

And no one actually even claims that it is a subspecies, it is just that it is out at the edge of its habitat; it is several hundred miles away from where it normally goes. And under the current implementation of the act, we don't have the flexibility to say we want to concentrate on species which are native to California that we have affected because of our development of farming and logging and the development of our cities.

And, you know, we look—he uses the example of Florida. In California, we have about 43 million acres, roughly, a little bit more than that, but roughly 43 million acres that is owned by the Federal Government right now. And of the 43 million acres, about 78 percent of that is set aside with a permanent conservation easement on it. And that is a big part of California. That is a large chunk of California. In fact, those figures came before the California Desert Protection Act was passed. So it is even a higher figure than that.

And, you know, how do we go about reaching out and protecting specific areas and change the act so that we can do that without the fights that we get ourselves in and the conflict that we get ourselves in? Because one of the biggest problems I have with my farmers and ranchers out in my area is they don't think it makes sense. They don't think that the things they are being asked to do or the things they are being told they can't do, they don't think it makes any sense.

I mean, they are experts in biology, the same way you are. They have spent their entire lives out on that farm and there is nobody that knows more about their farm than they do.

Mr. MAPLE. Well, I think Speaker Gingrich is correct, we are going to have to get some people in a room and begin to understand each other a little better. I think you heard a little talk about this earlier from the experts and the various agencies.

From what I have observed—and I talk to a lot of people, I talk to a lot of average Americans—everybody understands that these are very difficult times for people in wildlife; and you have just got to find a way to make these things work. I think it is abundantly clear that the conflict that you describe just doesn't work. And as you say, people know their land and they have a certain idea about how things should work. If that is in disagreement with prevailing law, I think you have to find ways, as I said, to make it work for everybody.

It is not going to be easy, and it sounds simple to say that, but getting people together is important. And we have just got to work

it out. It is too important for us to disagree about this, to the disadvantage of the public.

Mr. POMBO. Dr. Cameron, you brought up something that we have heard all over the country in terms of what people's fears are under the current implementation of the Endangered Species Act. And I believe those fears are very real. I believe that the loss of private property is a very real issue under the current implementation of the act.

You said that you went and talked to a number of different people about what the worst-case scenario would be if you introduced what could become an endangered species on your property. Can you share with me a little bit about what they told you?

Mr. CAMERON. I will try, yes.

Our stream has some origins in public land, passes through State land, and so on and so forth. Their possible scenario was that, under some guise or other, our having this endangered species on this reach of this stream could give them an excuse—if you wish, or whatever—to begin telling us how we should graze, whether we should graze, and in other words they would take over management rights to thousands of acres of land, the excuse being that they knew how to manage this grayling better than we.

There are, I think, some examples where this has occurred, and I wasn't willing to take the risk.

Mr. POMBO. Do you—one of the criticisms that we have heard is that these stories are anecdotal stories that are clearly exaggerated and false, and they just can't be true. And I think that—and I really do appreciate your being here with your experience to share that with us, because—

Mr. CAMERON. May I say that the perception itself that this can occur has profound consequences on how people behave. And, you know, when I read in the last stock journals that somebody is being fined \$5,000 because of a couple of birds that drowned in a stock watering tank, I think, God, there has got to be a better approach than that, there just has to be.

Mr. POMBO. I agree with you.

Mr. CAMERON. Many things, many solutions are very simple. We have Boy Scouts, we have all kinds of people who would be willing to help. The wood duck—at one time apparently there were more wood ducks in captivity in England than living wild in the United States. It turned out they needed nest boxes and people started hanging nest boxes. Now they have hung nest boxes in South Dakota, we have got wood ducks where there were no wood ducks before. And it is simple things like that.

Also, I think you have got to be very careful about national legislation that purports to manage things at a micro level in any way. It just can't work. We found in our experiment with cooperative management of a quarter of a million acres that it was largely ancient rules and regulations within the State that were preventing us from using imaginative solutions to the problem and bringing people together.

Get rid of the rules and open up opportunities for people to get together. There is a lot of goodwill out there. Some of it has been frustrated by the laws, but there is a lot of goodwill among landowners. And we are all aware that we are part of the solution.

I was a little alarmed by the notion that the entire onus for saving the world is going to be placed on the larger landowners. These 85 percent of the people who are off the hook are the ones who saturate their lawns with pesticides and on and on and on, and waste water on Kentucky bluegrass and pave the streets and on and on and on.

They are not off the hook, in my opinion. They should be asking me, what are we doing right and how can we encourage other people to continue in these practices.

Thank you.

Mr. POMBO. Thank you. Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman. Dr. Cameron, I was disappointed to hear that you taught at Montana State, because my son goes to the University of Montana in Missoula. So—

Mr. CAMERON. I am in trouble.

Mr. GILCHREST. But he has to pass right by your school to get there, and you do live in a pretty part of the country. And I certainly—I am very positive that we can develop an act, a law that encourages people to participate in a voluntary manner, encourages Boy Scouts to come out and pass these little—maybe put some of those little fingerlings into your stream and encourage—it is going to take people from the Federal Government, the State government, the local government—more importantly, it is going to take all people to want to participate in these programs.

A wood duck landed in the liner of my chimney to my wood stove one time, and he fell right down into the—in the chimney. I thought it was a rat in there; not a kangaroo rat, I don't think we have them in Maryland. But we lifted the stovepipe out, and sure enough, it was a creosote-soaked wood duck. And we let him go. Then we put a little screen on top of the thing so it wouldn't happen again.

I have a question—and I really do appreciate your testimony, because it is a matter of education and cooperation and everybody joining hands. What can we do to help each other so nobody has to be fined or worry about doing what you are doing? And I hope we can create an act so within a year's time you can put some of those fish in your stream.

Mr. CAMERON. I hope so, too.

Mr. GILCHREST. I have a question about—this thing is annoying. I have a question about, since I see that you are a geneticist, could you give some indication—and I am not sure what your field is—as to the importance of diversity as far as agriculture is concerned, whether it is dealing with hybrid corn and introducing a new gene pool, or a variety of grain crops?

Mr. CAMERON. Well, it is certainly true that resistant genes for alfalfa crop, for grain crops and whatever, have been found throughout the world and in natural species of plants, which are near relatives of the predecessors of our cultivated plants. And I think we should survey the world and obtain as many seed stores of these things as we can.

The world is becoming more and more dependent on fewer and fewer crops. And I think we could be setting ourselves up for problems, but we have dealt with them in the past and we will deal with them in the future. Your question—I think I must answer

that we should be careful in conserving the ancestral stocks of these grains and cereals and crops that we rely upon, yes.

Mr. GILCHREST. Thank you.

Dr. Avery, this is yours, I guess, and it is fascinating. I would like to—and I haven't read it in its entirety. I haven't read it in its entirety, because I just got it while I was up here. I found it very interesting.

I would just say, sort of—we have had some people defend their States, so I am going to sort of defend my district on the Eastern Shore of Maryland.

The CRP program has been an enormous success, especially because of the migrating Canada geese that come down and light in those particular areas. And I know it is different in different areas, and any program can be abused. But I just throw that out there.

The other thing is, you have—you have a very good explanation here for organic farming and why it is very difficult, and we can't have organic farming all over because there is the need for a good amount of organic material. But what I would say is, there is a farmer in my district that farms about 800 acres of grain crops using nothing but organic material.

Now, there is an advantage where he is, because we have Perdue farms down there, so he uses a lot of chickens, a lot of eggshells, a lot of chicken manure, and all the brush that the county can give him. And so consequently, he has rows and rows and rows—100, 200, 300 feet long, 20 or 30 feet high—of organic material. So I guess if we could do that for a number of other farmers, that certainly would be possible.

But his yield is consistently higher than the yield of the more traditional farmers that use and have to use, out of necessity, a lot of the chemical fertilizers and pesticides and things like that. And I hope I can get a little more time, because I will—I do want you to respond to that, if I may have a little more time.

Mr. AVERY. The United States, according to USDA analysis, has less than 30 percent of the organic—of the nitrogen that would be needed to support current output, let alone tripling world food production, for the 21st century. And we are richly endowed. As a world, we probably have only about 20 percent of the organic nitrogen that would be needed to support current output. China tried this under Mao Tse-tung and it was a dreadful failure. They incurred the worst soil erosion they had ever seen, along with extensive malnutrition.

We simply don't have it, and the only practicable way to get it, to get more organic nitrogen, would be to commit more land to legume crops like clover and alfalfa. And if you are talking about plowing down 10 million square miles of forest land just to get clover and alfalfa, I don't think it is a good trade. I think we lose far too much in environmental resources.

Mr. GILCHREST. No, I think you raise a good point. But where it can work, I think there should also be some incentives to encourage it.

Mr. AVERY. Organic farming is in a sense its own incentive, because its costs are—for inputs, are relatively low. I don't particularly have any—I don't own any chemical company stock, and I am not pushing chemicals. What I am pushing is high yields. Because

the less land it takes to produce the world's food supply, the more land we have left over for wildlife habitat. And on a global basis, this is a huge number.

Mr. GILCREST. Dr. Maple, I am going to sort of—anybody else can answer this question, but I will direct it initially to Dr. Maple.

Sometimes when we debate the Endangered Species Act and a speaker says it should be referred to as the "biological diversity act," we are sort of comparing apples and oranges. There have been grievances in the past with abusive regulators and grizzly bears eating people's sheep and being concerned about whether or not we should put fish in our streams or a whole range of things. So I think the regulations can be adjusted to meet the needs of people.

But I just wanted to ask a question that dealt, pure and simple, with biological diversity. And I think that is coming out through the hearings that Rick has held over the past several months; and people are beginning to understand, I think, a balanced approach to this particular act so that we can save two things.

One is—and I don't want to sound like an alarmist, and I know in some of the testimony environmentalists do often sound like alarmists, but I don't know if I have a reputation around here to be an environmentalist or not—but one is to save the biological diversity of the planet, not only in the United States but around the world, we can set a pretty good example. And the other is to allow people to be a part of this solution.

The question is, in general terms—and I know we don't have a lot of time; could you give a very succinct, I guess, definition of what an ecosystem is and why or why isn't diversity important in an ecosystem? And then, is there a connection to ecosystems, biodiversity, and the climate of the planet?

Mr. MAPLE. Well, I am a psychologist, so the first thing you have got to know is I am a psychologist. So if there are any biologists in here that are willing to take that one up?

I don't think we have got enough time to answer that question.

Mr. POMBO. Yes, I was going to say, we are going to be here all night.

Mr. MAPLE. But let me make one tiny comment about it, about biodiversity.

You know—and it is instructive that I am a psychologist, because I can tell you that promoting a lot of wildlife, like snakes and insects and creatures like that, especially those that cause people harm, is a very difficult process. I welcome an opportunity to promote ecosystems or biodiversity, because it is a lot easier to do that, in my opinion, than it is to promote some of these other critters.

Some of the problem with the Endangered Species Act has simply been that the animals themselves that have been troublesome have not been very highly regarded by the public. If an animal is a bald eagle or a giant panda or a mountain gorilla, you don't usually have an argument. So it is a very difficult process to preserve the whole chain of being, the whole web of life. And certainly if you have a balanced ecosystem, my view would be that if you protect that ecosystem, you are protecting biodiversity.

How that interrelates, you know, to the planet in other ways—climate, et cetera—again, I would pass the baton to other experts.

Mr. CAMERON. Could I comment?

Mr. SIMBERLOFF. Well, the answer to your question about climate really couldn't be given here. About your first question, on the definition of biodiversity, the relationship of species biodiversity to ecosystem function, the congressional Office of Technology Assessment put out a document on biodiversity that adopted the definition that scientists generally use, that it entails genes, species, and ecosystems.

As for the relationship of biodiversity of species to the health of ecosystems, that has become a subject of great interest, obviously, quite recently, and there are several ongoing studies. The first couple were published quite recently and show some relationship between the number of species and some indicators of what we think of as ecosystem health, like the rate of nutrient cycling and patterns of energy flow. But this is really a very active area of research right now, undoubtedly for the very reason that you are asking the question. I feel sure that, five years from now, probably 15 studies will have been published. For now, I think there are two.

Mr. GILCHREST. Dr. Cameron also had a comment?

Mr. CAMERON. Yes, I think it is possible to confuse the issue of the interaction of organisms in an environment and their interdependence. These are quite separate things.

Darwin was talking about interaction and how they mold each other, but the Earth has taken some awful hits in the past. The Cretaceous was mentioned this afternoon, in which 80 to 90 percent of the species of marine invertebrates were eliminated, and yet I don't think there was any detectable change in the atmosphere as a consequence of this.

I think it is a terrible commentary on human beings that we are decimating populations, but I don't think the sky is falling because we are losing these species. E.C. Pielou, a noted ecologist in British Columbia, wrote a book, *After the Ice Age*. And in this she tells how organisms returned following the retreat of the ice. And they didn't return as communities; they returned, marched north one by one, and sometimes thousands of years separated plants and some of their insects that live on them, that we now think are dependent upon each other, but they obviously aren't because they got there separately.

Though I agree with Dr. Simberloff, that we have to look into this much more, I think that we can overstate the crisis at this moment and, in response to this, do things which are absolutely detrimental to the whole process that we are trying to keep going.

Thank you.

Mr. GILCHREST. Thank you.

Mr. POMBO. Mrs. Chenoweth.

Mrs. CHENOWETH. Dr. Cameron, I am interested in following up on your statement and your thinking there and probe a little more.

You stated there is interaction and interrelationship.

Mr. CAMERON. Interdependence.

Mrs. CHENOWETH. Interdependence. Do you feel that maybe that is where some of the problem is, and understanding and confusion comes, with terms like biological diversity and ecosystem, because we try to manage it? I mean, ecosystem management, by definition, may be trying to manage the interaction of an action that may hap-

pen on one part of the planet with a relationship with what may happen in another part of the planet.

Mr. CAMERON. I am not sure exactly what you are saying. I—

Mrs. CHENOWETH. Let me try to make myself—

Mr. CAMERON. I do think that we have to have objectives, and that we can manage for these objectives. And there are examples of this. Kruger National Park in South Africa is one that manages for biological diversity, and it doesn't just let things go. It burns and it harvests, and it actually sells and makes a profit off some of its elephants and whatever. And there is no sin in that, OK? And so we should set objectives and manage toward them, but we should be reasonably certain that these objectives are the best possible objectives.

Mrs. CHENOWETH. I really appreciate what you say. But I think we are nailing down the problem of the policymakers, the implementers and the scientists. And, you know, my feeling is, Doctor, that unless we have a reasonable area that is well defined to operate and manage within, then it creates utter chaos in the decision-making process.

Mr. CAMERON. I have sympathy with what you are saying, yes.

Mrs. CHENOWETH. Dr. Simberloff, I have studied your testimony. I am sorry I wasn't here to hear it, but how old is the law of species area relationship?

Mr. SIMBERLOFF. It was first articulated in the early 19th century by an English botanist examining plants in different counties and islands in the British Isles, and he pointed to this regular relationship between area and the number of species. So it goes back about 180 years now.

Mrs. CHENOWETH. Well, in science, what is law?

Mr. SIMBERLOFF. This is an empirical law. It simply says that when we look over and over again, we see a relationship of this sort.

I should add that it is a law that has a lot of variation around it. A study done by two of my students looked at a hundred sets of sites, measured species-area relationships, and found that area explains about half of the differences in the numbers of species. Many other factors contribute the other half, but by and large, whenever people look, empirically, this is what they find.

Mrs. CHENOWETH. You know, I think we are defining what the problem is, because we don't have absolutes to deal with, and when the politicians and the policymakers and the enforcers try to deal with nonabsolutes, that is where we run into the trouble.

Can you define for me what biological diversity is?

Mr. SIMBERLOFF. What biological diversity is?

Mrs. CHENOWETH. Yes. Can you define it for me?

Mr. SIMBERLOFF. I believe the definition in the congressional OTA report is the one that is widely accepted by scientists and by me: the numbers of entities at three levels—genes, species, and ecosystems or communities.

Mrs. CHENOWETH. What are ecosystems?

Mr. SIMBERLOFF. An ecosystem is the sum of all of the species that make up the biological community, plus the physical environment in which that community is embedded.

Mrs. CHENOWETH. Could genes be in, say, space? Are there molecules in space? Are there—

Mr. SIMBERLOFF. Well, of course, these are hierarchical: genes are in organisms and then organisms are in ecosystems.

Mrs. CHENOWETH. Can you see our frustration in trying to make these concepts manageable?

Mr. SIMBERLOFF. I certainly can. I thought that the congressional OTA report did a great service by clarifying, to some extent, what has been a very fluid concept. I have heard the term biodiversity used in many different ways, but I urge the task force to go back to that OTA report and stick to that no matter how other people choose to define biodiversity.

Mrs. CHENOWETH. Dr. Maple, I realize that you are a psychologist, but I have some questions.

You said in the News Tribune on February 27th of 1994 the following about privatization of Zoo Atlanta: You said, "Cities don't know how to run zoological parks. With privatization, we got autonomy as a business. There is cost and quality control, and we can shoot for excellence. It is just hard-nosed people saying, how do we get the bread out? Public-private partnerships can help cities," you write, "and help zoos get better. It allows zoos to do what a company does best, and that is free enterprise and government to do what it does best, which is to serve the public."

Dr. Maple, given what you have accomplished with privatizing Zoo Atlanta, shouldn't this lesson also be applied to how the ESA is implemented?

Mr. MAPLE. Well, I think there is a lot of room for public-private partnership in conservation. I sort of walk in the middle. We have a lot of industry friends. I have a lot of environmental friends. Maybe I am the right mediator for this conversation, but I do believe that we have partnerships, and we are engaged in them now, and they are working.

I mentioned the example of Georgia-Pacific Company working in the Southeast to save woodpeckers and continue their business. I think those are the kind of strategies we ought to work for. Zoological parks are used to this process. I think that—I know this. I have worked in government. It can be a rather difficult thing to work within when you are entrepreneurial.

I would like to suggest we need some entrepreneurial conservation. Zoos are good at that, and there is nothing in what you say that would make it difficult for me to agree that in the climate of business leaders and conservation leaders getting together there is no reason why we can't find ways to make this act work, and I think public-private partnerships are instructive in this regard.

Mrs. CHENOWETH. Doctor, your zoo does have endangered species in it?

Mr. MAPLE. Yes, we do.

Mrs. CHENOWETH. Do you have a section 10 permit, section 10, a taking permit under the ESA? I hope you do. I really hope you do.

Mr. MAPLE. Are you suggesting that—

Mrs. CHENOWETH. No, no, no. I am just suggesting you check with your staff and make sure you do.

Mr. MAPLE. Listen, I want to tell you that I have a lot of sympathy for the problem of dealing with the bureaucracy of endangerment. I am having a little bit of a dispute with some of my friends right now about reintroducing the indigo snakes onto land where the animals previously lived, and I have not been permitted up to now to actually do this because some of the experts have suggested that we really don't need a captive propagation program, and I regard this as a fine technicality which really begs the issue.

So I have been there. I understand what you are saying. We have got to find a way to make sensible decisions in conservation. There is an awful lot of complication to this whole thing. I guess I can understand how it evolved that way. But I think we are in a period now where there is an opportunity to make some refinements to make these things work better. And I, for one—and I really hear almost nobody in the environmental movement who doesn't appreciate the fact that we have overbureaucratized and overmanaged this whole system.

Mrs. CHENOWETH. Well, Dr. Maple and gentlemen, I have studied your testimony, and I want to thank you so much for what you have invested in this process. And I really wish I could sit and learn from you, all of you, but I know that we will be back in touch with you because your knowledge and expertise is so important to all of us. This is such an incredibly deep problem, as we found as we held hearings across the Nation.

So, you know, personally, I just want to thank you very much. I wish we had the full committee here because I wish they had either studied your testimony or heard you because it is extremely valuable. Thank you so much.

Thank you, Mr. Chairman.

Mr. GILCHREST. Mr. Chair, if I can just have a second.

I want to echo the sentiments of the gentlelady from Idaho and welcome everybody here, especially Dr. Maple. I have met you once briefly in the past, and we had a stimulating conversation. And Dr. Kangas from the University of Maryland, which is one of our exceptional places in this great State, welcome to Washington, D.C. Thank you all very much.

Mr. POMBO. Thank you.

Before I excuse this panel, I would like to make just a couple of points. You come at this, for the most part, as scientists from your perspective in protecting biodiversity, your perspective from the scientific viewpoint.

We are policymakers. We are legislators. And we have to not only consider the scientific implications, we also have to consider the very real economic and sociological considerations that make up our job. And when we started this process several months ago, we wanted to, as the Speaker mentioned in his testimony, bring everybody together and have them actually listen to what the other side is saying.

Unfortunately, that hasn't really begun to happen until the end of the process. Because everybody came into this fight with the long knives drawn and loaded for bear, and we had people who testified from every perspective on this, and I think that those who benefited from this process that we have gone through actually sat

and listened to what the other side was saying and actually started to pay attention to what the other side was saying, in that we do have some very real conflicts that don't necessarily have to be there. And I think that if—you know, we have heard the comment that this is not a partisan issue, that it is a bipartisan issue.

Well, if you listen to what we are actually saying, instead of maybe what the reporters have said that we said or what some people have said that we have said and actually listen to what we are saying, maybe we can find that there is more common ground than you ever imagined in trying to solve this problem.

And I think that it is extremely important, as we move—it shall continue to move through this process, that we do actually pull from each other's experiences and what we have brought to this debate. And I was very encouraged to hear George Miller in his statement because it shows that he has actually listened to some of those people that have had problems, and I think that we need to do that so that we can find a way to develop an Endangered Species Act that actually works and is supported by the people.

Thank you all very much for being here, for your testimony.

I would like to call up our third panel, Dr. Gene Wood, Dr. Tom Cade, Robert Gordon and Dr. William Brown. Thank you very much. I appreciate your patience in sticking with us, but this is extremely important and we need to get through.

STATEMENT OF GENE WOOD, SOCIETY OF AMERICAN FORESTERS, CLEMSON UNIVERSITY, CLEMSON, SOUTH CAROLINA

Mr. POMBO. Dr. Wood, you are recognized. Thank you.

Mr. WOOD. Mr. Chairman, I appreciate the opportunity to appear before the Committee on Resources to offer the viewpoints of the Society of American Foresters (SAF) and its opinions on reauthorization of the Endangered Species Act of 1973, as well as my thoughts on this matter. The official position of SAF on reauthorization of the Act is attached to my comments which I ask you to include in the record.

As a Clemson University professor of wildlife ecology, I have done research on endangered species, principally the red-cockaded woodpecker, since 1975. I have also worked as a management consultant to a substantial number of private forest landowners dealing with listed species timber issues.

As a consultant, I have not only dealt with red-cockaded woodpecker issues but also in designing and overseeing extensive surveys for the gopher tortoise in Mississippi and the Karner blue butterfly in Wisconsin. As these efforts are all conducted on commercial forest lands, they are all aimed at the development of conservation strategies that will be both ecologically and economically sound.

The Georgia-Pacific RCW plan has been referred to several times here this afternoon. I was the senior author of that plan. I also developed the initial concept for what we believe will be the first State-wide habitat conservation plan (HCP) in the United States and would apply to the Karner blue butterfly in Wisconsin. And I am a member of that HCP team and a consultant to Georgia-Pacific and other forest industry members participating in that effort.

Based on my research and management experience, I would like to state briefly several points that I consider to be fundamental to the deliberations on reauthorization.

One, the conservation of imperiled species is a value of high priority to our Nation and its people.

Two, in the history of our Nation, no conservation step has ever had economic and sociological consequences comparable to those associated with the listing of a species as threatened or endangered.

Three, the listing of a species should be considered an ultimate step to be taken only when it has been clearly demonstrated that no other measures are adequate to prevent the extinction of that species.

Four, the American public has trusted that the sound and thorough science has documented the necessity for each listing. Yet thorough science rarely has been available at the time of any listing and often remains inadequate, even during recovery planning.

Five, because an increasingly large percentage of listed species occur scarcely or not at all on any public lands, private landowners, who own 67 percent of the American landscape and 72 percent of the American forest, bear a greater burden for listed species conservation than does any other single segment of our society.

Six, the command and control mode of conservation on the part of the Federal Government has almost certainly had economic and sociologic consequences far greater than anything intended or foreseen by the original act sponsors. These impacts have led to critically important anti-conservation sentiments regarding listed species, especially where they occur on private lands.

Seven, the Congress must be explicit in its instructions to the Secretaries that conservation guided by sound science must be integrated into the socioeconomic fabric of our democratic and capitalistic system. To do otherwise would require an increase in the police action mode of conservation and may politically imperil the most fundamental purpose of the act, the prevention of extinctions as a result of inappropriate relationships between humans and other ecosystem components.

Thank you, Mr. Chairman.

Mr. POMBO. Thank you very much.

[The statement of Mr. Wood may be found at end of hearing.]

Mr. POMBO. Dr. Cade.

STATEMENT OF DR. TOM J. CADE, THE PEREGRINE FUND, BOISE, IDAHO

Mr. CADE. Thank you, Mr. Chairman.

I am also a retired professor—they are the best kind—and I also happen to be the founding chairman for a nonprofit conservation organization called the Peregrine Fund, which is headquartered in Boise, Idaho. I have been asked to talk specifically about the subjects of captive propagation and translocation and other similar—what we refer to as hands-on procedures—in attempts to restore endangered species.

In my prepared statement, I have presented this information pretty much from the point of view of my own work and that of my organization; but I can't cover 25 years, obviously, in five minutes, so I am going to make just a few quick general points.

I have submitted to the committee some other supporting documents, articles and papers and so forth that I would recommend to you and your staff to consider. I was going to bring a book that I have been trying to get on the Speaker's list of recommended readings for the Congress, but, unfortunately, it is a thousand pages long, and it might be a bit too much for you folks!

Anyway, to summarize briefly about these topics, the first point that I would like to make is that captive breeding and translocation, reintroduction, similar procedures, do work for some species of organisms, despite some of the pessimistic statements that we heard earlier by my colleague and friend, Dr. Simberloff.

I know this from the work that the Peregrine Fund has done, not only with the peregrine falcon but also with about seven other endangered species of birds of prey that we have studied and released around the world.

I also know it from information which I receive as Chairman of the IUCN Species Survival Commission's Specialist Group on Reintroduction. I have gotten information from around the world on more than 100 avian projects that are under way involving translocation of one sort or another. And some of those—not all of them—have been successful.

Now, as far as the group that I am particularly interested in, the birds of prey, there are at least 20 species in which significant local or regional populations have now been reestablished by these procedures.

I will just give you two quick examples and talk about the peregrine falcon, because that species has served more or less as the model for a lot of this work, and also mention another species that you may not have heard about, the Mauritius Kestrel out in the Indian Ocean.

The peregrine falcon is an interesting species in a lot of ways. It has always been naturally rare, even in the best of days, but it has a wide distribution. In fact, it is the most widely naturally distributed bird in the world.

So why do we have to be worried about it? In the 1950's and the early 1960's, this bird, like a few others, the bald eagle and so on, encountered some peculiar problems as a result of the overuse of DDT and other pesticides, which resulted in reproductive failure and the loss of population. The species disappeared over large portions of its range in Europe and North America.

Just, for example, in the eastern United States, from the Mississippi River east to the Atlantic coast, where there used to be about 400 or 450 pairs—remember, we are talking about over a million square miles of area here, so that is a very thin population—those birds were entirely gone, disappeared completely by the late 1950's to early 1960's.

Now, as a result of breeding this species in captivity at Cornell and a lot of other places, too, and releasing the progeny of those birds back into the wild in this area that I mentioned, the eastern area, we now have reestablished 180 pairs, approximately. That includes southern Canada and the Atlantic coastal States. So we are quite a ways toward return to the level that this species once had in numbers there.

In the greater Yellowstone ecosystem, which was also totally wiped out, no peregrines left, we now have 60 pairs reintroduced there, and I could go on with similar cases.

But the bottom line is that there are now about a thousand pairs of peregrine falcons again nesting in the United States south of Canada, about as many as there ever were. We think that this species is ready to be removed from the endangered species list, and we expect to see it delisted this year.

Now, quickly, on the Mauritius Kestrel, because I see the yellow light is already on, when we started work on that species in 1973, 1974, it was one of the most endangered birds in the world. It was reduced to fewer than 10 individuals. There were only two pairs that could be found in the field, and only one of those had a female that was still productive. So it was down to a single productive female.

By using the same techniques that we applied to the peregrine falcon, over the following 20 years or so we have built that population back up so that in the last breeding season there were 70 pairs nesting in the wild and about 300 individuals. We expect that population now on its own to build up to a level of perhaps 200 or so pairs.

Just quickly coming back to some conclusions about the role of captive breeding. I agree with Dr. Simberloff that it is not a panacea for all species, only for a few species. Many species cannot be bred in captivity, and of those that are bred, only a few can possibly be successfully released because of difficulties in development of behavior or other problems that result from the captive situation.

We need suitable habitats to introduce species, so we should not think of breeding and translocation as substitutes for the preservation of habitat and for ecosystem management and other more holistic actions that people have been talking about here today. Breeding and release should be considered methods of last resort, used only when it appears they will be helpful in a particular case.

If I could just say two things about the Endangered Species Act as to how it has helped and how it has hindered us. The main way we have had difficulties with the act has been in the permitting process. It is very burdensome, and it is compounded by the fact that we have to comply with permitting procedures with several other Federal acts, the Migratory Bird Treaty Act and the new Wild Bird Conservation Act, and sometimes others. Sometimes there are conflicts over what is required among these acts.

So we would like to see the Federal permitting system for research and conservation work simplified and streamlined; and we have submitted a memorandum to your committee about some things we think could be done through an amendment to the Endangered Species Act to make this situation simpler, not only for the permittees but also for the Federal permitters, to make all of our lives a little easier. And I would request that you look at those recommendations.

As far as how the ESA has helped, people have been emphasizing cooperation here today, and I agree with that. The provisions in the act that allow for cooperation among various parties, the Federal Government and the States and nongovernmental organizations

and even private individuals, I think are the great strength of the act.

I would like to see section 6, for example, improved even more and with more funding going to the States in proportion to some of the other programs the Endangered Species Act supports, such as consultations and law enforcement. I would like to see language that makes it clear that nongovernmental entities are also cooperators.

Thank you very much.

Mr. POMBO. Thank you.

[The statement of Mr. Cade may be found at end of hearing.]

Mr. POMBO. Mr. Gordon.

STATEMENT OF ROBERT GORDON, NATIONAL WILDERNESS INSTITUTE, WASHINGTON, D.C.

Mr. GORDON. Mr. Chairman, thank you for this opportunity to provide NWI's views to the Endangered Species Task Force.

The debate over the act's reauthorization is often presented in the simplified terms of those who are defending the law and those who are defending themselves against an out-of-control act. At NWI, we address a different issue: the fundamental question of whether the law has been good for wildlife and, if not, how should we go about making it better.

Simply put, the act's principal goal is to recover species. While some species have benefited, particularly from efforts like Dr. Cade's, unfortunately, to date, not one species has been delisted as a result of the act. Although several species are officially termed recovered, in each case, data error or recovery from factors unrelated to the act would be a more accurate explanation.

As you can see from this chart, not a single species can legitimately be claimed as recovery of the act. More disconcerting is that there is little indication the act is generally improving species' statuses. The Service has stated, species listed longer appear to have a better chance of becoming stable or improving. This statement leads one to believe that the act, if not yet achieving recovery, is heading in that direction.

However, several years after making this claim, the Service remains unable to substantiate it. In fact, the recently retired Deputy Director of the Service has stated that the word "appear" in this statement is a weasel word.

The law's advocates highlight the number of species categorized as stable or improving, intending this to be interpreted as progress. This, however, is a faulty assumption for several reasons.

First, the determinations of improving and stable are purely qualitative measurements. Second, categorizing may be based on no more than a biologist's opinion. Third, it is incorrect to assume that because some percentage of species is called stabled or improving as concerns threats to the species at a particular moment that the act is generally benefiting species.

This is like showing a still photograph of a car and arguing it is going fast. From the photo, we cannot determine that it is going fast. In fact, we cannot determine if it is moving at all or even its direction. If it were a safe assumption that species are declining

when listed, then simply stating what percentage of species are deemed stable might mean something, but that is not the case.

The law does not require a species population trend be negative for listing. A species may be listed simply because of a threatened habitat modification or even the lack of existing regulatory mechanisms. And the current listing standard of best available data is bad. Because best is a comparative word. Data need not be reliable, adequate, accurate or even good. This standard leads to mistakes like the Mexican duck and many others, wasting scarce conservation dollars.

The Service considers the status of 27 percent of species as unknown, an increase of 7.6 percent from the previous report. This high percentage of unknowns, zero recoveries to date, the Service's inability to demonstrate statistical improvement, the law's perverse incentives, the history of data errors, the poor listing criteria and criteria standards, suggest that the program's implementation is hazy at best and casts doubt on any claim of general benefit to species.

A review of ideas and statements and recovery plans furthers leads one to question the prospects for any future recoveries.

The Florida scrub jay plan states: Because of the extreme usefulness of the act in this case, it is not desirable to remove the scrub jay from under protection of the act.

The Iowa Pleistocene snails plan states: With a return to glacial conditions, it will be resuscitated over a major part of the upper Midwest.

The blunt-nosed leopard lizards plan states: A current target acreage figure of 30,000 acres has been established for the San Joaquin Valley floor. Conflicting land users will be reduced or eliminated.

The plan for three beach mice states: Encourages restrictive agreements in sales and rental contracts requiring house cats to be confined and monitor activities for privately owned lands through county planning boards, rezoning applications, et cetera.

The act's poor record does not mean that we cannot conserve endangered wildlife. Compare the results of the act's approach with voluntary, incentive-based efforts. As a result of nesting boxes built by duck hunters and placed in swamps, there are now over three million wood ducks, once a severely depleted species.

Because bluebird fanciers designed and placed tens of thousands of bluebird houses, bluebirds are on the rebound from a precipitous decline.

And wild turkeys have increased to a population high from severely depleted numbers because of efforts of groups like the National Wild Turkey Federation.

If the act had been adopted earlier in the century, wood ducks, bluebirds and wild turkeys would have been on the endangered species list. How could one then convince a landowner to give permission to put a nesting box on his property? How many landowners could afford to let private groups release birds on their land if the presence of the species meant they could no longer use their property?

The act does not recover species, and there is little evidence that more time, money or more aggressive application will change that.

The old way has cost billions of dollars and tremendous harm and destroyed trust between people and wildlife officials. We need to re-establish that trust with farmers, ranchers and other citizens to effectively conserve wildlife.

The old law has failed because it is founded, essentially, on regulation and punishment. There isn't even a section of the law called conservation or recovery. It is predominantly about bureaucracy, and its fruits are paperwork, court cases and fines, not recovered species. Conservation's future lies in establishing a new foundation based on the truism that if you want more of something, you reward people for it, not punish them.

The debate that is unfolding here is between methods of conservation. One way is shackled to the idea that a government solution of national land use control will work. The other promotes a new way that can actually help species because it stops punishing people for providing habitat and encourages them to do so. It creates an opportunity for government to reestablish trust and work with citizens.

Thank you again for the opportunity to present my views, and I commend the Chairman and the task force Chairman for addressing this issue, for providing so many opportunities for interested and affected Americans to participate and for your dedication to promote reforms that are both meaningful to wildlife and people.

Mr. POMBO. Thank you.

[The statement of Mr. Gordon may be found at end of hearing.]

Mr. POMBO. Dr. Brown.

STATEMENT OF WILLIAM Y. BROWN, PRINCIPAL, RCG/HAGLER BAILLY, MEMBER, NATIONAL RESEARCH COUNCIL, COMMITTEE ON SCIENTIFIC ISSUES IN THE ENDANGERED SPECIES ACT

Mr. BROWN. Mr. Chairman, Madam Congresswoman, I am a member of the National Research Council Committee on Scientific Issues in the Endangered Species Act. Its report was issued yesterday, and I would like to spend my few minutes just talking about some of the report's highlights. I have a copy of the statement that the Chairman of the NRC Committee presented yesterday; and, if it is appropriate, I will put the statement into the record.

Mr. POMBO. Yes.

[The statement of Mr. Clegg may be found at end of hearing.]

Mr. BROWN. The committee was formed—as I think you heard this morning—at the request of one Senator and two Members of Congress. In the letter that they sent, that triggered the report, they asked six specific questions about the Act, and they asked the National Academy of Science and the National Research Council to form a group of individuals with scientific backgrounds to try to address the questions from a scientific perspective.

That group was formed. The letter was sent in November 1991, and it took about a year for the funding to come through, so the study was about two-and-a-half years ago.

The committee is made up of a diverse group of individuals. Everyone has background in science, or economics in one case, and there is one law professor. Most have had a connection with endan-

gered species or endangered species policy over some time, although some are pretty pure academics.

The committee members did not just come from academic institutions, but also industry and some policy groups like the Wildlife Management Institute. My own background at the time was with Waste Management, Inc., so my employment background was from industry.

It is important, I think, to note that the committee worked hard to achieve a consensus. That took some time, but, in the end, the report does reflect a consensus. And all of the conclusions and recommendations of the report are approved by every member of the committee. The most fundamental are to follow.

Please bear in mind that this committee did its very best to act as a group of scientists. We recognize that there is a role for policy-makers and a role for economic and political considerations, and we did our very best to divorce ourselves from that.

We were of the view, reflected in the report, that the Endangered Species Act is fundamentally sound from a scientific point of view—its assignment of values to species; its reference to ecosystems.

We can talk about what "ecosystem" means in the Act, but the fact is that the ESA values not just the protection of the species but of the ecosystems in which they occur. Ecosystem protection is most fundamentally the framework within which the Act operates.

In particular, the committee concluded that there is an undeniable link between habitat conservation and species. There are some species that have been rendered endangered by chemicals or by taking, but clearly habitat is central and is a major cause of endangerment.

The committee addressed the question of what are the right units of protection. As you know, the Endangered Species Act authorizes the listing of species or subspecies of animals and plants and distinct population segments of vertebrates. The committee concluded that the animals and plants which are conventionally classified by taxonomists in different fields as species—full species or subspecies—in general are valid units from the perspective of listing. The committee's concept is something called the evolutionary unit, which is an assemblage of organisms that has a common evolutionary history and a unique evolutionary future. Our view is that species and subspecies conventionally defined fit this definition.

The real debate is on distinct population segments, and there is ample room for debate on many of them. But we think that it is valid to list distinct population segments if they are evolutionary units, and there are many like the burrowing owl in Florida which are valid units. There are some other populations that are not evolutionary units, like the bald eagle in the lower 48, which is not a separate evolutionary unit from the bald eagle as a whole. This does not mean you should not protect the bald eagle in the lower 48 States, but it is not evolving as a separate unit from Alaska.

We found no scientific bases for any differences in protection status between vertebrate animals and invertebrates and plants. Again, this doesn't mean that the Congress should not consider other factors, but there are no scientific lines that we could draw.

On the recovery process, I guess we got the closest to looking at the regulatory system. We do have a recommendation: too often the recovery planning process has been divorced from guidance on the regulatory requirements of section 7 and section 9 and section 10 of the act, and the result really is not very effective from the point of view of protecting species. Nor is it a fair thing to do to the community of individuals that is regulated by the act.

I know that the agencies involved are trying to do a better job at integrating the scientific recovery planning effort with giving guidance on what those requirements are: to get the requirements out up front, and define what is OK to do or not OK. But they should do more if the yeas and nays are said up front; we could narrow the area where there is debate and limit back and forth with regulators which causes delay.

The committee report expresses the view that the Endangered Species Act has played a positive role, especially in preventing species' extinctions in some cases. However, the report also states that the Act is not enough, and more should be done. The committee is not recommending an expansion of the Endangered Species Act or the adoption of additional legislation, but there is a need to do more, and it could take any number of forms.

My own interest is in the partnership area that we have talked about. I think that there is a lot of environmental spirit in many of the larger companies that I have worked with that, without regulatory mandate, will undertake voluntary programs for biodiversity conservation.

And so, separate from this reauthorization discussion, things should be done to encourage these partnerships. The Fish and Wildlife Service has one program, for example, called Partners for Wildlife. It is very small and very effective, giving technical assistance and helping landowners do things on their properties at their invitation. Programs like it should be supported, and nurtured.

These points are basically what we concluded.

Mr. POMBO. Thank you.

One of the things that was in your report was the idea of establishing survival habitat, and it says, with no considerations of economics. Do you—I mean, I know you guys were scientists and coming at it from that point of view, but do you have any idea what the policy implications are of doing that? I mean, maybe I don't—I just got your report, so I haven't had the chance to read the whole thing yet, but what do you mean by that?

Mr. BROWN. I think that is a fair question to ask. Well, just to understand where it came from, we were asked to address critical habitat by one of the questions in the letter from Congress. There was a concern that in our committee critical habitat designations are a long, difficult process where, among other things, economic considerations come into force. We considered it important when a species is listed to put it on the map so people know where it is and what areas are most important to it. We thought that doing this would be to everyone's benefit that is affected by the act. So we developed that proposal.

The idea is that survival habitat would be an area no larger than critical habitat and would generally be a much smaller subset defined as that. It would be the area that is critical for survival, not

recovery—to maintain the existing population or to give some assurance that extinction won't occur within 25 to 50 years.

It would be a much smaller area than critical habitat. There would be nothing from a regulatory perspective attached to survival habitat that is different than what is attached to critical habitat—basically the requirement that is now in Section 7 prohibiting agencies from adverse modification or destruction.

One other thing. Survival habitat designations would be in place only until critical habitat is designated and then they would become no longer effective.

Mr. POMBO. One of the dangers in what you are advocating, and I won't dismiss it offhand because I have not had the chance to read the whole report, but one of the dangers in what you are advocating is that the vast majority of species that are on the list, they don't know where they live. They don't have critical habitat maps. They don't have that knowledge, and to go in with a survival habitat that ensures their life for 25 to 50 years assumes that they did good science to list the species to begin with, and I know you were here earlier.

One of the problems we have is that with the recent listing of the fairy shrimp in California, they assumed by where they surveyed for the shrimp that it was endangered even though that wasn't where the majority of its habitat was. They were on the wrong side of the valley when they surveyed.

So if we went in with the survival habitat and said, this area is survival habitat for the fairy shrimp, Fish and Wildlife would say, you can't do anything within that survival habitat, even though there is no critical habitat map that has been adopted, there is no recovery plan that has been adopted.

They have no—they did not do good science to list it to begin with, but it is just another step in the bureaucratic regulatory process that now they have what they call a survival habitat and they get to put this out there even though they haven't done the work to establish where the species lives. They haven't done the work. And if you don't know where the species live, you can't say whether or not it is endangered.

So I think that you need to—if you do adopt an idea, and I understand why you did it, if you do adopt an idea of survival habitat, there also has to be better science to base the listing on to begin with than what we did.

Mr. BROWN. I appreciate your point, Mr. Chairman. If I remember our recommendation accurately, I don't believe we are recommending that survival habitat be designated for already listed species.

Mr. POMBO. No. This would be for new species coming on and using the fairy shrimp as an example, which was listed September 15th of 1994, and now we are a few months down the road and there is severe criticism of the science that was used, the lack of any type of peer review, the lack of using other biological data that was produced and available to them. You know, they didn't follow what everybody thinks of when they think of listing an endangered species.

Mr. BROWN. Well, I guess I would—what I would like you to do is to take the recommendation, what I think is the spirit in which

it was offered—in which it was suggested by the committee, not really—not advocated, and really with a concern that all future listings should convey with them some knowledge, good knowledge of the habitat most critical to them.

We didn't audit past listings, but knowledge and habitat should be there, and it is important to give people guidance about where the habitat is. Survival habitat seemed to us one way you could do that, while keeping critical habitat with its economic impact consideration.

Mr. POMBO. Can you also provide for the record who you talked to, who you—

Mr. BROWN. Sure.

Mr. POMBO [continuing]. sought information from in coming up with these recommendations?

Mr. BROWN. I would be happy to do that and we have extensive written input from all sorts of folks.

Mr. POMBO. I will read the report and I know I will have further questions for you. I wish that there was an opportunity to have read that before we had this, but I will have further questions for you on the report to try to clarify exactly what you did mean by certain parts of it after I have had the chance to finish reading the entire thing. I thank you.

Mr. Gordon, in your prepared statement, you talk about plans that have an enormous amount of habitat requirements and one of those was the blunt-nosed leopard lizard, a current target figure. Acreage target figure of 30,000 acres has been established in the San Joaquin Valley floor with acquisition emphasis on optional habitats, containing high density blunt-nosed leopard lizard populations in identified priority habitat areas, conflicting landowners will be reduced or eliminated in an effort to restore habitat to optimal conditions. And then it goes on to describe further property in adjacent foothill and plain areas. Where did you get this from?

Mr. GORDON. The recovery plan approved by the Fish and Wildlife Service for the blunt-nosed lizard.

Mr. POMBO. So this came right out of their recovery plan?

Mr. GORDON. Yes, sir. Last year, we undertook a review of all the recovery plans that had been approved through a certain day. I think it covered some 306 recovery plans and I have attached to my statement an article concerning this study that was recently produced in the Franklin Journal of Technology.

Mr. POMBO. This one?

Mr. GORDON. Yes, sir.

Mr. POMBO. I was reading this last night and I ran across that and it kind of made me—woke me up a little bit, let's say. You also talk about, in your prepared statement, that they want to depend upon other tools to control habitat other than the Endangered Species Act, and you list several examples of where they talk about using local zoning ordinances and Clean Water Act, different wild and scenic river examples. Under the current act, what authority does Fish and Wildlife have to do this?

Mr. GORDON. I don't know the answer to that. Just to be quite blunt. They are encouraged, obviously, all agencies are—well, maybe I do. I think in—early in the act, under the purposes of statements, all Federal agencies and departments, I believe, are

supposed to use their authorities for furtherance of the purposes of the act. Therefore, any other authorities they have that might be able to—that might allow them to try and make use of local zoning ordinances—

Mr. POMBO. But there is a difference between Federal Clean Water Act and the Wild Scenic Rivers Act and local zoning ordinances.

Mr. GORDON. Yes, there is a clear difference. I don't know the answer to that, but I would assume that that is the section of the law that a regulator would quote if you asked him, but I may be wrong. I would be very happy to research the issue and try to get back to you on that.

Mr. POMBO. I wish Mr. Frampton was still here. I would like to ask him that question under that. Another thing in here that you had was with the Iowa Pleistocene snail.

Mr. GORDON. Yes, sir.

Mr. POMBO. I guess that is how you pronounce it, with a return to glacial conditions, it will be resuscitated over the major part of the upper Midwest provided areas are preserved and maintain. What do they mean by that?

Mr. GORDON. I guess it is kind of a long-term program. I don't know if it is very expensive on an annual basis, but it might compound. As I recollect that recovery plan, the snail was found on rocky outcrops that had *algific talus*-specific—well, it had plant life that was similar to more northern latitudes, and these were the last—the remaining areas from when the glacial age had last been here and that is when the snail prospered.

And the recovery plan, the intent of the recovery plan is to make sure those areas basically stay as they are and provide continued habitat for that snail, and then when we enter another ice age, which is the climate which is favorable to the snail, the snail would then prosper.

Mr. POMBO. And that is legitimately in their recovery plan?

Mr. GORDON. Well, it is in the recovery plan, but a lot of the statements that you find in the recovery plans almost seem laughable. I think there was a process whereby very early on in a lot of the recovery plans, there was serious intent by the authors and they really believed that the plans were going to be carried out and the actions were going to be implemented and they would see the reaching of measurable goals that eventually led to the recovery of the species.

As we went further on in later dates in the recovery plans, that becomes questionable, whether the authors believed anybody was really going to actually ever be implementing this plan. They seemed to get—they started to get a bit silly. And I think it is unfortunate that that occurred, primarily because the law has become more of a regulatory mechanism rather than a tool which encourages the type of proactive management actions that Dr. Cade and others take.

Mr. POMBO. Dr. Cade, you bring up propagation and the fact that it is useful in certain circumstances.

Mr. CADE. Yes.

Mr. POMBO. Under the current implementation of the act, is it encouraged that you experiment with captive breeding programs or

is—I mean, everything that I have heard is that they don't want you to use it and they do not want to consider that as a viable means of leading toward the recovery of species.

Mr. CADE. Well, I think, yes, I would agree that the current attitude in the Fish and Wildlife Service and a lot of other of the land-holding government agencies is very much toward the habitat preservation, ecosystem management approach to things and to deemphasize work on individual species, including captive propagation and reintroduction.

On the other hand, I have to say that the Fish and Wildlife Service Endangered Species Program has continued to support various captive breeding programs like ours and the condor, whooping crane, and a number of others, the black-footed ferret and so on, so they are still very much into the business of supporting this work, although in their public statements, they downplay its importance.

Mr. POMBO. Now, the captive breeding programs that you have described are with species which are on the verge of extinction.

Mr. CADE. Most of them are, yes, or were at one time, what we would call critically endangered. That is correct. Down to a few individuals.

Mr. POMBO. That is a 25-year process.

Mr. CADE. They are species that are either reduced down to a few individuals in a very restricted range, such as the Mauritius Kestrel that I talked about or the California condor would be another example. Also the Hawaiian crow, or they are species with broader distributions which have lost huge chunks of their natural range and where it is unlikely that individuals from the outlying populations will reinvade and repopulate those vacant areas.

Those are the sorts of situations where I think these intensive, hands-on manipulations can be beneficial to species recovery.

Mr. POMBO. I saw—or I read a statement about a peregrine falcon nesting in the top of a building in San Francisco.

Mr. CADE. Yes, that is correct. It is not alone. There are over 80 pairs, probably close to 100 pairs now nesting in cities. New York City has 12 pairs. Los Angeles probably has that many. They have taken over urban environments in a great way since we started releasing them.

Mr. POMBO. So the possibility exists for them to, I guess, adapt to an urban area like that?

Mr. CADE. They can adapt to urban areas, and there were a few pairs in cities before the DDT problem came along. New York had a pair, Philadelphia had a pair from time to time, and there was a very famous pair that nested for 14 years on a building in Montreal; but they were exceptional.

But there was a propensity or a tendency for peregrines to do this sort of thing, and if DDT hadn't come along and wiped them out in the East, it is likely that this habit of going to cities would have developed further.

But since we put these birds back that have had—how should I put it—they have had some experience with the trappings of human occupancy and so on, so that there is no way to avoid their not being somewhat familiar with buildings and other structures associated with human beings. This experience, I think but I can't

prove it, has somewhat preconditioned them to accept man-made structures as nest sites. They nest on buildings. They nest on bridges. They nest on towers.

Mr. POMBO. If we were to operate more proactively with species, species management, and instead of waiting until we were down to the last 10 pairs and the last breeding female of a particular species and that we had a species that was in decline and we began an active breeding program, captive breeding program, and—to build up the numbers and continued, I know you have learned a lot in your time of doing this, but continued to go out back into the wild and bring in natural gene pools so that you don't have some of the problems that have developed in some of the other captive breeding programs, could we not expand the use of captive breeding programs if we did that?

Mr. CADE. This is pretty much what we did with the peregrine actually. We brought in stock from all around North America for breeding, and we used the progeny, what some people call hybrids or mixed stock, to repopulate the eastern United States. And, yes, if it is clear from population censuses that there is a species that is declining at an unusually rapid rate, then that might signal the need for some hands-on work.

Mr. POMBO. Thank you. Dr. Wood, I understand that in your capacity that you have had to deal with conflicts in management of different species, and particularly with the woodpecker and a butterfly that existed on your property. Could you elaborate on that a little bit?

Mr. WOOD. Well, those and the gopher tortoise. I think the interesting thing about all three species is that their conservation is not difficult to integrate into forest management practices. That doesn't say that there do not have to be some alterations, i.e., modifications in how things are done, but it certainly does not require major modifications, even on an industrial forest.

What we find with the species that I have worked with on private lands is the necessity of having large parcels of land. As the land parcel gets smaller, the difficulty of carrying out meaningful conservation without severe economic impact becomes greater and greater. Most corporate ownerships are in substantially large parcels.

In the case of the red-cockaded woodpecker in the South, Georgia-Pacific's Crossett forest in Southeast Arkansas has been an industrial forest for close to 100 years. It has been managed for nothing but timber over that time, and with even aged management since 1963.

And yet there are only four national forests of the 12 that have been targeted for recovery populations, that have more woodpeckers than does the Crossett. We made just a few minor adjustments in how that timber was being managed where the woodpecker was present. Today it is supporting about 95 active colonies, and the economic sacrifice is negligible.

It costs money—actually, most of the money is in personnel time used to document that the plan is working—we have a memorandum of agreement with the U.S. Fish and Wildlife Service, that says that while the Georgia Pacific plan is not the same as the government's plan for the RCW on private lands, it is equivalent in

its conservation effect and that there will be no net loss in the demographically isolated portion of the population that can be attributable to timber management.

I feel certain that we will be able to live up to that agreement. In the case of the Karner blue butterfly, I am optimistic it is going to be a very substantial success story. But, again, it requires ownership of land in parcels large enough for flexibility. For instance, in the case of the butterfly, if you are on a 60-year rotation in which most red pine plantations in Wisconsin are, normally about the first 15 years of a red pine plantation will be good butterfly habitat. So about 25 percent of the landscape that is in a 60-year rotation is in butterfly habitat at all times.

Now that will work OK as a conservation measure. You can assure lots of butterfly habitat if you held a large parcel of land. But if you only have 60 acres or 20 acres or something or other, some small acreage, this strategy will not work because you cannot manage that timber, you cannot sell timber in small enough parcels for that to work.

So what we are doing there is coming together with the other non-Federal entities—particularly the State, which has land and State holdings that are in large parcels; and the counties, which own about 15 percent of the Wisconsin forests, and bringing in some of the corporate lands, such as those of Georgia Pacific, which will have about 60,000 acres affected by this plan.

And we are saying that the fundamental purpose of the act is to prevent extinction, i.e., to ensure the future of a species. We will ensure the future of this species in central Wisconsin on these lands, but we want the obligations taken off of the rest of the small private landowners who cannot deal with this. Their land is in parcels that are too small.

Mr. POMBO. The original habitat of the Karner blue butterfly extended from Wisconsin to New York.

Mr. WOOD. Into southern New England even, yes.

That is one of the problems in the act. The Karner blue butterfly is highly abundant in central Wisconsin. Wisconsin is a State that is very highly environmentally sensitive. Counting their species of special concern, they have about 212 State-listed species. And, yet, they have trouble justifying to themselves the need to list the butterfly. They recommended to the Federal Government not to list as endangered but to list as threatened.

Michigan, I understand—and I am not doing any work in Michigan. It is just my understanding that there are substantial populations in Michigan.

Now also what I understand is that, in fact, the butterfly may be endangered in southern New England, New York, northern mid-Atlantic States, even into Iowa and Illinois. But that is not the case in Wisconsin and Michigan.

Mr. POMBO. Let me ask you about that. How do you—how do you deal with that, where you say it is not endangered in Wisconsin, but it may be in New York? Is it a different butterfly?

Mr. WOOD. No, it is just that there is a difference in landscape. Where there is habitat and where there are butterflies, there will be butterflies. They have lost that habitat.

The problem that has made it difficult for us to work with is the criticism: "Why are you going to all this trouble if there are so many butterflies?" Well, because, in the Act, only vertebrate fish and wildlife can be listed by distinct population. For invertebrates or plants, you must list rangewide under one designation.

So because it is, if the information that the Fish and Wildlife Service has is correct, that it is endangered in a significant portion of its range, it is then listed rangewide, not just in that portion of the range.

Mr. POMBO. So in order to handle all the species that are on your property, it involves extensive management of the property. Where you cut land, cut trees, replant, that becomes habitat as you are moving on to the next level of management.

What you are describing is what I think—what a number of people have advocated in the Pacific Northwest on the spotted owl, is that the answer is not to lock down the forests but to manage the forests so that you have continuing habitat. And the current approach does not allow us to do that.

Mr. WOOD. That is correct. For the species that I am familiar with, in order to integrate them into economic land use, or what I refer to as the working landscape, you have to look at a dynamic landscape and understood that where habitat is now, it won't be sometime in the future. But these species will change—will move with the availability of habitat. That is particularly true with the butterfly. We are working on that dynamic. That is a part of the science. And it has certainly been true throughout the ages.

For instance, considerable work has shown that changes in the southern forests have occurred sporadically due to hurricanes of a catastrophic proportion that have wiped out woodpecker habitat. We saw this with Hurricane Hugo and the Francis Marion Forest in South Carolina in 1989, and that was not an isolated event. And yet there have been lots of woodpeckers on that dynamic landscape over time.

That has been pretty well true, I think, of most landscapes. They are dynamic.

Mr. POMBO. Well, I appreciate a great deal the testimony of this panel in answering the questions. I know that there is going to be further questions that other Members will have. Unfortunately, when we recessed today from the House, a lot of people had planes they caught to go back home. So I know that there are further questions, and I appreciate a great deal your patience and perseverance in sticking with us for the final panel and thank you very much for being here.

With that, the hearing is adjourned.

[Whereupon, at 4:58 p.m., the subcommittee was adjourned; and the following was submitted for the record:]

TESTIMONY OF ASSISTANT SECRETARY GEORGE T. FRAMPTON, JR. BEFORE THE
ENDANGERED SPECIES TASK FORCE OF THE HOUSE RESOURCES COMMITTEE
ON THE ENDANGERED SPECIES ACT.

May 25, 1995

I would like to thank the members of the Task Force and the Resources Committee for the opportunity to discuss the Endangered Species Act (ESA), one of the most important conservation laws in the history of this nation, and probably the world. Despite the importance of this law, whose stated purposes are to conserve the ecosystems on which endangered and threatened species depend and to provide a program for their conservation, this subject seems to be generating much more heat than light in the past several months. Recent media coverage has focused almost entirely either on the Act's vaunted success stories (such as bald eagles, grey whale, and whooping cranes) or on reported horror stories (e.g. surrounding the California fairy shrimp and Stephens kangaroo rat). While some of these stories are valid, others are clearly exaggerated or false. The point is that neither success nor horror stories tell the real story.

What has actually been happening over the past two years, much less publicized, is a quiet revolution in the implementation of the Act. This is a revolution brought about by this Administration in an attempt to do something that had not been accomplished in the past 12 years -- to make the Act work better for both species and the public. Our key objectives are based on a common sense approach to the Act and a concerted effort to

solve legitimate problems while preserving the core goal of protecting our nation's priceless biological heritage. These objectives include: relaxing burdens for small landowners; encouraging large landowners to enter into voluntary agreements to manage their land to protect species, as a substitute for regulation; increasing certainty and predictability for private landowners and local governments; expanding the role of states; reducing socio-economic effects of listing and recovery; and making sure good science and the most accurate data available are being used in all ESA decision making.

As successful as our efforts to date have been, more could be accomplished through changes Congress could make to the existing statute that would make it possible to achieve all of the Administration's 10 point plan announced in March of this year. These changes would result in a major reform of the way the ESA is administered. Congress could enact changes that would:

- provide greater flexibility in the conservation of threatened species as originally intended by the Act;

- provide certainty for landowners who develop habitat conservation plans or improve habitat for endangered species on their lands that their actions will not be subject to further restrictions under the ESA;

- exempt residential homeowners and most small landowners whose activities affect less than 5 acres from the incidental take prohibitions of the Act; and

-- give the states a much greater role and enhanced flexibility in the Act's implementation.

In addition, the land management agencies are working together to formulate proposals to further reduce delays and uncertainties associated with the consultation process under the Act.

These changes would be significant and go to the heart of legitimate problems associated with the Act. But just as important, they would be consistent with our fundamental principles for any ESA reauthorization we will support. These include:

1) The reauthorization must be consistent with the overall purposes of the ESA which are widely supported by the American people. That support remains strong despite recent controversy as evidenced in a recent Lou Harris poll in the Northwest, which found that citizens support reauthorization of the ESA by over a 2 to 1 margin, with 71% of those polled responding that the ESA has been effective in protecting plants and animals from extinction. The reauthorization, therefore, must not undermine the basic requirement that endangered and threatened species be conserved -- with the goal being to recover species and remove them from the list.

2) It must make the Act more workable, efficient and less costly to implement for the government and property owners -- not more bureaucratic, costly and unworkable.

3 Finally, the reauthorization must reduce administrative, economic and regulatory burden on small landowners while providing greater incentives to conserve species.

Our basic message, and the point behind the 10 point plan is that much has been done and still can be done under existing authority, using flexibility in the law and creativity seldom exploited in prior Administrations. Additional flexibility can be gained through a moderate, sensible, centrist program of amendment in the reauthorization process - - without throwing out the Act.

I would now like to highlight some of the areas of the law we have been working to improve, and how our 10 point plan could greatly reduce current problems associated with the ESA.

Relief for Small Landowners

Early this year the U.S. Fish and Wildlife Service (USFWS) proposed a "special rule" under section 4(d) of the Endangered Species Act to release about 80% of all the private forest land in Washington State (and substantial amounts in California) from virtually all logging restrictions that would otherwise apply on account of the northern spotted owl. This private landowner "dividend" was possible because the President's Northwest Forest Plan places the burden for conservation primarily on federal forest land to meet most of the conservation needs of the owl and

other old-growth dependent forest species.

The proposed special rule would, for the first time, also provide a "small landowner exemption" effective across both states. Owners of 80 acres of forest land and/or less located anywhere in Washington or California (even in the non-released areas) would be exempt from the logging restrictions.

Secretary Babbitt will soon issue a proposed rule to exempt on a generic basis most current landowners who use their property as a residence, want to develop less than five acres of land, or who undertake development activities that have a minimal impact on the species overall. The exemption would pertain to virtually all "threatened" species, but would not apply where cumulative impacts to habitat from many adjacent small landowners might be severe.

Our 10 point proposal asks Congress to provide the Fish and Wildlife with the same kind of flexibility to extend such an exemption for endangered species, which is not possible under existing law.

Voluntary Agreements With Large Landowners

In the 1982 amendments to the Act, Congress reconciled conflicts

between private development and endangered species by allowing the development of voluntary "Habitat Conservation Plans (HCP's)." An HCP, when accepted by the USFWS, supplants the regulatory prohibition of the Act that private landowners cannot "take" threatened or endangered species on their property. The plans identify management techniques to protect listed species and/or set-asides of "reserve" areas in which habitat is protected; in exchange, permission for development of the rest of the property is granted.

From 1982 to 1992, fourteen HCP's were completed. Since then, we have completed more than sixty additional HCP's, and more than 150 additional HCP's are currently being negotiated nationwide.

As a result of the new "no surprises" policy for HCP's announced by Secretary Babbitt late last summer, landowners with approved plans will be exempted from any additional requirements for species covered by the plans (both listed and not yet listed) for the life of the plan - - in some cases as long as fifty years. Thus landowners receive a significant degree of certainty and protection against future regulation. These multi-species HCP's are advantageous to both parties, and may help keep additional species off the endangered species list.

In the Southeast United States, USFWS has signed cooperative management agreements with three major timber companies to manage

their lands to protect red cockaded woodpeckers: Champion International (Texas), Georgia-Pacific (Arkansas), and Hancock Timber (Virginia). Four more such agreements, as well as ten HCP's, are currently under negotiation, including several that will cover many small landowners.

For the Sandhills region of North Carolina, the USFWS recently developed a "safe harbor" HCP to provide incentives for private landowners to preserve and enhance red-cockaded woodpecker habitat. The agreement promises that success in attracting more woodpeckers to their property will not limit future development even if the woodpeckers are later compromised. A similar process has been proposed for the Pacific Northwest to encourage timberland owners with emerging owl habitat not to "panic cut" their lands before owls may be found there - - guaranteeing future logging of these lands will not be blocked by owls attracted to the improving habitat in the meantime.

In the Pacific Northwest, to complement the President's Forest Plan, a team of biologists has been established in the USFWS's Olympia, Washington, office to negotiate HCP's with large landowners. Agreements have been concluded with Weyerhaeuser for its holdings in Oregon, with Simpson Timber, and with Murray-Pacific Corp. More than a dozen additional HCP's are currently under development including prospective agreements with the States of Oregon and Washington, the Seattle Municipal Water

District, and private industrial timberland owners.

Most of these will be "multi-species" HCP's, designed to protect dispersal habitat for owls, riparian areas necessary for spawning salmon (both runs that are listed and runs that may be listed in the future), and other plants and animals. The riparian protection being incorporated in these plans are "state of the art" for private industry and are intended to meet both federal and state regulatory requirements well into the future.

HCP's or cooperative agreements have also been signed or tentatively approved in the past year with states (e.g., Utah, to protect the Virgin River spinedace), and counties. Examples of HCP's include Clark County, Nevada (Las Vegas), and Washington County, Utah (St. George), to protect key populations of desert tortoises; Riverside County, California, for the Stephens kangaroo rat; and Bakersfield County, California (multi-species).

In February the Plum Creek Timber Co. signed an innovative agreement with the USFWS, Forest Service, and State of Montana to manage nearly 300,000 acres of private, state, and federal lands in the Swan Valley of Montana for grizzly bear protection. Plum Creek is the largest private landowner in Montana.

In addition, the Congress could provide additional certainty to landowners who develop approved habitat conservation plans that

protect non-listed species as well as listed species. Landowners who have satisfactorily demonstrated that they will protect candidate species or the significant habitat types within the area covered by a habitat conservation plan should be assured that their land use activities will not be disrupted if the candidate species or additional specific species not covered by the plan but dependent upon the same protected habitat type are subsequently listed under the ESA.

Greater Involvement Of States and Local Government

A major focus of criticism and frustration with the ESA has been the lack of adequate consultation, involvement and flexibility for the states in the implementation of the ESA. A critical component in our 10 point plan deals with this issue and was developed in concert with the Western Governors Association, National Governors Association, International Association of Fish and Wildlife Agencies (representing state fish and wildlife departments), and many others.

The leading model for Habitat Conservation Planning spearheaded by state ~~and~~ local government is the Natural Communities Conservation Planning (NCCP) process now underway in several Southern California counties. In a special rule under the Endangered Species Act first proposed in the Spring of 1993, the USFWS delegated to the State and counties in Southern California the opportunity to use existing planning processes to protect

habitat for the California gnatcatcher, as a substitute for federal regulation.

This devolution of authority has spurred Orange and San Diego counties, working with local municipalities, developers, and environmentalists, to develop several county-wide multi-species plans that would protect habitat for groups of species including many that are not now on the federal list. If approved, these plans will in effect plan for the open space, riparian, recreation, and habitat needs of these counties well into the 21st century - - and suspend Endangered Species Act regulation for almost all species that could conceivably be listed in the coming decades.

..

Federal as well as state, local, and private funds have gone into the planning effort, and the federal government will eventually contribute toward land acquisition necessary for any preserves, as will developers and state and local governments.

Final plans are expected to be proposed before the end of 1995. In the meantime, interim guidelines permit subdivision and development of up to 5% of key habitat for listed species if targeted in less sensitive areas. This allows a "safety valve" rather than the complete halt in development that would have occurred if strict regulatory provisions of the Act had been applied.

The Administration's "ten point plan" of March 1995 identifies a series of legislative changes that could be adopted to guarantee broader state involvement in administration of the Endangered Species Act, and make delegation to state and local governments like that achieved in Southern California easier to structure in future cases.

We suggest, for example, that States all be given a formal opportunity to review the scientific basis for future listing proposals, and that States be allowed to assume responsibility for development and implementation of recovery plans and for issuance of habitat conservation planning permits. Recovery plans should also be developed jointly between the federal and state agencies affected.

We also suggest that where a State, in concert with other land stewards, develops its own conservation plan that would achieve the objectives of a recovery plan, the USFWS be authorized to suspend the effects of the species' listing (or several species, if the state plan is multi-species) in that State, letting the State implement its plan through state regulation and other means. USFWS would monitor that plan and review its effectiveness periodically.

Ensuring The Use of The Best Science

Another concern expressed by critics of the Act is that there is

insufficient outside review of listing decisions made by USFWS. We have adopted a policy acquiring three independent scientific peer reviews of all listings, and suggest that this requirement be written into the law. In addition, we support requiring that special consideration be given to State scientific knowledge and information. We propose that petitions be sent to each affected State fish and wildlife agency and that the Secretary be required to accept a State's recommendation against proposing a species for listing or delisting unless the Secretary finds, after independent scientific peer review, that listing is required under the ESA.

Better Cooperation Among Federal Agencies

Several of the apparent "train wrecks" attributed to the Endangered Species Act in the past resulted primarily from the failure of federal agencies to (1) obey their own statutory mandates, and (2) work together toward a common goal. Simply getting federal agencies working together has produced a Forest Plan for the Pacific Northwest that will provide a sustainable long-run timber harvest while protecting the old-growth forest ecosystem, owls, salmon habitat, and more than 1400 species dependent on this biologically-rich and threatened ecosystem.

Our work in the San Francisco Bay/Delta contrasts with the conflict and delay that can result from the failure of Federal agencies to cooperate and listen to communities. Federal

agencies jointly produced a plan for water allocations in the San Francisco Bay/Delta that would comply with the Endangered Species Act and Clean Water Act this cooperation produced an agreement in late 1994 that was joined in by the State of California, urban water users, agricultural interests and environmentalists - - achieving landmark consensus that has eluded policy-makers on these issues for almost 15 years.

The Administration is considering other possible actions that would eliminate redundant review of federal plans and actions on federally-managed land - - allowing a single "screening" of plans or guidelines to protect species that, once adopted, would guide federal land managers without requiring duplicative reviews of every timber sale, recreation development, or watershed restoration project.

Taking Account of Socio-Economic Factors and Trade-Offs

The Administration continues to support basing the listing of species solely on science, not politics. But the changes detailed above are intended to provide much greater flexibility, and therefore ~~more~~ opportunities for consideration of costs and of socio-economic impacts, in how we go about recovering listed species.

The use of Habitat Conservation Plans, and the greater involvement of state and local governments, will necessarily

involve more balancing of protection with economic costs. In addition, by policy the Administration has now directed that species recovery plans explicitly minimize any social and economic impacts of recovery. The Administration supports including such a requirement in the law.

Ultimately, the changes that have already been adopted in the Administration's strategy recognize that the central goal of the Act is protection of habitat for endangered species; that the most valuable habitat usually supports a rich mixture of species; and that the efforts to protect such habitat inevitably will involve weighing costs and benefits.

Our approach to the Endangered Species Act is intended to recognize these trade-offs and balance decisions, taking the long-term, not the short-term, view. If good science and wise management of our natural resources guide our actions, we will benefit not only threatened and endangered species, but the human species as well.

TEN PRINCIPLES FOR FEDERAL ENDANGERED SPECIES ACT POLICY

Ten principles guide the Administration's effort for reforming and implementing the Endangered Species Act:

1. **Base ESA decisions on sound and objective science.**

Federal Endangered Species Act policy must be based objectively on the best scientific information available.

2. **Minimize social and economic impacts.**

The ESA must be carried out in a manner that avoids unnecessary social and economic impacts upon private property and the regulated public, and minimizes those impacts that cannot be avoided, while providing effective protection and recovery of endangered and threatened species.

3. **Provide quick, responsive answers and certainty to landowners.**

The ESA must be carried out in an efficient, responsive and predictable manner to avoid unnecessary social and economic impacts and to reduce delay and uncertainty for Tribal, State and local governments, the private sector and individual citizens.

4. **Treat landowners fairly and with consideration.**

The ESA must be administered in a manner that assures fair and considerate treatment for those whose use of property is affected by its programs.

5. **Create incentives for landowners to conserve species.**

Cooperation with landowners in protecting and recovering species should be encouraged through use of incentives.

6. **Make effective use of limited public and private resources by focusing on groups of species dependent on the same habitat.**

To make effective use of limited resources, priority should be given to multi-species listings, recovery actions and conservation planning.

7. **Prevent species from becoming endangered or threatened.**

In carrying out its laws and regulations, the Federal Government should seek to prevent species from declining to the point at which they must be protected under the ESA.

8. Promptly recover and de-list threatened and endangered species.

The ESA's goal of bringing species back to the point at which they no longer require the Act's protection should be achieved as expeditiously as practicable.

9. Promote efficiency and consistency.

The ESA should be administered efficiently and consistently within and between the Departments of Commerce and the Interior.

10. Provide state, tribal and local governments with opportunities to play a greater role in carrying out the ESA.

Building new partnerships and strengthening existing ones with state, tribal, and local governments is essential to each of the nine previous principles and to the conservation of species under the ESA in a fair, predictable, efficient and effective manner.

A PACKAGE OF REFORMS TO IMPROVE THE ENDANGERED SPECIES ACT

The Clinton Administration is announcing a package of reforms and proposed reforms that will have an immediate and positive effect on how the ESA is implemented throughout the Nation. This package builds on the ten principles set forth above. It describes administrative actions that have been taken or will be taken in the near future by the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS). And the package identifies ways in which implementation of the ESA could be improved through legislative action by the Congress.

1. Base ESA Decisions on Sound and Objective Science.

ISSUE DEFINITION: Concerns exist that decisions made under the ESA have not always been objective or based on the best available scientific information.

Administration Position: Federal Endangered Species Act policy must be based objectively on the best scientific information available. Therefore the Administration has initiated the following reforms:

► **Peer review and information standards.** To ensure that Endangered Species Act policy is based on the best scientific information available, the NMFS and the FWS have issued a joint policy directive requiring independent scientific peer review of all proposals to list species and all draft plans to recover species within the timeframes required by the ESA. A separate directive establishes more rigorous standards for the kinds of scientific information used in making ESA decisions.

► **Listing petition standards.** The NMFS and the FWS have published draft guidelines for public review and comment that would set tougher, uniform standards for the scientific determination that there is "substantial information" to propose a species for listing and would place more burden on the petitioner to show that the action may be warranted.

2. Minimize Social and Economic Impacts.

ISSUE DEFINITION: The ESA has been criticized for not giving greater consideration to the social and economic consequences of listing species under the Act.

Administration Position: The ESA must be carried out in a manner that avoids unnecessary social and economic impacts upon private property and the regulated public, and minimizes those impacts that cannot be avoided, while providing effective protection and recovery of endangered and threatened species. Therefore, the Administration has initiated or supports the following reforms:

► *Recovery plan development and implementation.* The FWS and the NMFS have issued a policy directive on recovery planning that will require that any social or economic impacts resulting from implementation of recovery plans be minimized. To help ensure that this goal is achieved, this directive requires the NMFS and the FWS to scientifically identify the recovery needs of a species and then involve representatives of affected groups and provide stakeholders with an opportunity to participate in developing and implementing approaches to achieve that recovery. It also will require that diverse areas of expertise be represented on recovery teams.

► *Greater flexibility.* Flexible and creative approaches are necessary to prevent threatened species from becoming endangered and to provide the impetus to recover them. The CONGRESS should restore the distinction between a threatened species and an endangered species, which was originally intended, by providing the Secretary with flexibility to use, in consultation with the States, a wide range of administrative or regulatory incentives, prohibitions and protections for threatened species.

► *Landowner provisions.* The policies outlined below to give landowners quick answers and certainty and to treat landowners fairly will minimize social and economic impacts to the private sector.

3. Provide Quick, Responsive Answers and Certainty to Landowners.

ISSUE DEFINITION: Concerns have been expressed by landowners and others that delay and uncertainty in ESA decisions unnecessarily frustrate development and land use.

Administration Position: The ESA must be carried out in an efficient, responsive and predictable manner to avoid unnecessary social and economic impacts and to reduce delay and uncertainty for Tribal, State and local governments, the private sector and individual citizens. Therefore, the Administration has initiated or supports the following reforms:

► *Early identification of allowable activities.* A joint FWS/NMFS policy directive has been issued that requires the Services to identify, to the extent known at final listing, specific activities that are exempt from or that will not be affected by the section 9 prohibitions of the ESA concerning "take" of listed species. In addition, this directive requires the identification of a single point of contact in a region to assist the public in determining whether a particular activity would be prohibited under the ESA. These initiatives will help educate the affected publics, as well as increase certainty regarding the effect of species listings on proposed or ongoing activities.

► *Streamlining habitat conservation planning.* The FWS and the NMFS have published a draft habitat conservation planning handbook for public review and comment. It is intended to provide quicker and more consistent answers to applicants for incidental take permits. These permits allow economic use of private land for those who develop a

conservation plan under the requirements of section 10 of the ESA. The draft handbook recognizes three categories of habitat conservation plans based on the level of impact to the conservation of species (high, medium, or low impact). It requires simplified procedures and faster permitting for low and medium impact plans.

► *"No surprises".* A policy of "No Surprises" has been issued by the FWS and the NMFS in habitat conservation planning under section 10 of the ESA. Under the policy, landowners who develop an approved habitat conservation plan for any endangered or threatened species will not be subject to later demands for a larger land or financial commitment if the plan is adhered to—even if the needs of any species covered by the plan increase over time. A landowner who agrees to provide for the long-term conservation of listed species in accordance with an approved habitat conservation plan is assured that activities on the land can proceed without having any additional mitigation requirements imposed, except as may be provided under the terms of the plan itself. Consequently, this policy provides the necessary assurances to landowners who are engaged in development activities over a period of many years that their habitat conservation planning permits will remain valid for the life of the permits.

► *Certainty for multi-species planning.* The CONGRESS should provide additional certainty to landowners who develop approved habitat conservation plans that protect non-listed species as well as listed species. Landowners who have satisfactorily demonstrated that they will protect candidate species or the significant habitat types within the area covered by a habitat conservation plan should be assured that their land use activities will not be disrupted if the candidate species or additional specific species not covered by the plan but dependent upon the same protected habitat type are subsequently listed under the ESA.

4. Treat Landowners Fairly and With Consideration.

ISSUE DEFINITION: The ESA has been criticized for placing an unfair burden on landowners, particularly small landowners.

Administration Position: The ESA must be administered in a manner that assures fair and considerate treatment for those whose use of property is affected by its programs. Therefore the Administration has initiated or supports the following reforms:

► *Greater Federal responsibility.* The Administration is emphasizing the importance of having each Federal agency fully meet its responsibilities for conserving species in order to reduce impacts to private lands. It is facilitating economic use of private land by placing additional federal lands in protection, by acquiring military lands when bases are closed, by enrolling existing federal lands in habitat reserves, and by arranging for purchases of RTC lands.

► *Presumptions in favor of small landowners and low impact activities.* For threatened species we will propose regulations that allow land use activities by landowners that result in incidental take and individually or cumulatively have no lasting effect on the likelihood of the survival and recovery of a species and, therefore, have only negligible adverse effects. In particular, the following activities would not be regulated under this proposal:

- activities on tracts of land occupied by a single household and used solely for residential purposes;
- one-time activities that affect five acres of land or less of contiguous property if that property was acquired prior to the date of listing; and
- activities that are identified as negligible.

In cases in which the cumulative adverse effects of these exempted activities are likely to be significant, the Secretary would be required to issue a special rule. The Secretary also would be required to consider issuing a special rule to exempt activities on tracts of land larger than 5 acres that are also likely to be negligible.

The CONGRESS should extend this flexibility to include activities that result in incidental take of endangered species and the CONGRESS should provide that incidental take activities undertaken pursuant to an approved state conservation agreement (*see recommendations under point #10*) are not regulated.

5. Create Incentives for Landowners to Conserve Species.

ISSUE DEFINITION: Concern has been expressed that current implementation of the ESA fails to provide incentives for species conservation or even discourages such conservation.

Administration Position: Cooperation with landowners in protecting and recovering species should be encouraged. Therefore, the Administration will support or has already initiated the following reforms:

► *Incentives for voluntary enhancement.* The FWS and the NMFS will provide incentives to landowners who voluntarily agree to enhance the habitat on their lands by insulating them from restrictions if they later need to bring their land back to its previous condition. Landowners often are interested in managing their lands in ways that have as a by-product substantial benefit to threatened and endangered species. However, landowners currently are reluctant to manage their lands in this manner because they are concerned that any subsequent reduction in quantity or quality of the improved habitat would result in a violation of the ESA. The proposed policy would apply only to those

situations in which it is possible to measure a conservation benefit to a species from habitat improvements. In those cases, landowners would not be penalized for having made those improvements.'

► *Incentives provided by other landowner provisions.* In addition, the "No Surprises" policy and the proposed legislative action to encourage landowners to participate in habitat conservation planning to protect multiple species will provide significant incentives for landowners to conserve species.

6. **Make Effective Use of Limited Public and Private Resources by Focusing on Groups of Species Dependent on the Same Habitat.**

ISSUE DEFINITION: The ESA has been criticized for placing too much emphasis on single species and not enough emphasis on groups of species and habitats.

Administration Position: To make effective use of limited public and private resources, priority should be given to multi-species listings, recovery actions and conservation planning. Therefore, the Administration has initiated or supports the following reforms:

► *Multi-species conservation emphasis.* The FWS and the NMFS have adopted a policy that emphasizes cooperative approaches to conservation of groups of listed and candidate species that are dependent on common habitats. It directs that multi-species listing decisions should be made where possible and that recovery plans should be developed and implemented for areas where multiple listed and candidate species occur. The policy further emphasizes the importance of integrating federal, state, tribal, and private efforts in cooperative multi-species efforts under the ESA.

► *Habitat conservation and recovery planning.* In addition, the habitat conservation planning and recovery planning policies in this package encourage multi-species and habitat-based conservation efforts.

7. **Prevent Species From Becoming Endangered or Threatened.**

ISSUE DEFINITION: Federal land-managing agencies, States, and others have expressed strong interest in having greater opportunities to put conservation measures in place that would remove threats to species and make their listing unnecessary.

Administration Position: In carrying out its laws and regulations, the Federal Government should seek to prevent species from declining to the point at which they must be protected under the ESA. Therefore the Administration has initiated the following reforms:

► *Federal/State conservation of imperiled species.* The Forest Service, BLM, National Park Service, FWS and NMFS have signed an agreement with the International Association of Fish and Wildlife Agencies that establishes a federal-state framework to cooperate in efforts to reduce, mitigate, and potentially eliminate the need to list species under the ESA.

► *Pre-listing conservation agreements.* The NMFS and the FWS have published draft guidance for public review and comment that encourages and sets uniform standards for the development of pre-listing conservation agreements with other parties to help make the listing of species unnecessary. The guidance also is intended to clarify the role of the FWS and NMFS in conservation of candidate species and ensure that there is regular, periodic review of the status of candidate species to help prevent their further decline.

► *Habitat conservation planning for non-listed species.* Providing additional certainty, as recommended above, to landowners who participate in habitat conservation plans that protect non-listed species as well as listed species will help prevent species from becoming threatened or endangered.

8. Promptly Recover and De-list Threatened and Endangered Species.

ISSUE DEFINITION: Concerns have been expressed that too little emphasis is placed on recovering and de-listing species once they have been listed.

Administration Position: The goal of the ESA is to bring species back to the point at which they no longer require the Act's protection. Specifically, the Administration supports the following reforms to promptly restore threatened and endangered species to healthy status and then promptly de-list them:

► *Effective recovery.* Recovery should be the central focus of efforts under the ESA. Plans for the recovery of listed species should be more than discretionary blueprints. They should be meaningful and provide for implementation agreements that are legally binding on all parties. They should prescribe those measures necessary to achieve a species' recovery in as comprehensive and definitive manner as possible in order to provide greater certainty and quicker decisions in meeting the requirements of the ESA.

The CONGRESS should ensure that recovery planning:

- articulates definitive recovery objectives for populations (including levels that would initiate down-listing or de-listing) based on the best available scientific information and the other requirements of the ESA;
- provides all jurisdictional entities and stakeholders an opportunity to participate in development and implementation of the plan;

-
- seeks to minimize any social or economic impacts that may result from implementation;
 - emphasizes multi-species, habitat-based approaches;
 - is exempted from NEPA if the planning process is equivalent to that required by NEPA;
 - facilitates integration of natural resource and land management programs at all jurisdictional levels; and
 - identifies specific activities or geographic areas that are exempt from or that will not be affected by the section 9 prohibitions of the ESA concerning "take" of species covered by a plan.

The CONGRESS should improve the recovery planning process under the ESA by requiring all appropriate state and federal agencies to develop one or more specific agreements to implement a recovery plan. Upon approval of an implementation agreement by each of the appropriate state and federal agencies, the agreement should be legally binding and incorporated into the recovery plan. Recovery plans and implementing agreements should be reviewed and updated on a regular basis. An incentive should be created for federal agencies to approve implementation agreements by providing an easier, quicker section 7 process. Such implementation agreements should:

- expedite and provide assurances concerning the outcome of interagency consultations under section 7 and habitat conservation planning under section 10 of the ESA;
- ensure that actions taken pursuant to the agreement meet or exceed the requirements of the ESA; and
- require that each appropriate agency that signs an agreement comply with its terms.

► *More rational process for designating critical habitat.* The CONGRESS should modify the timing of critical habitat designations so that they result from the recovery planning process. Specifically:

- Designation of critical habitat should be based on the current standards of the ESA and the specific recommendations in recovery plans.

- Designation should occur concurrently with recovery plan approval, rather than the current requirement that it be designated at the time of listing.

► **Prompt down-listing and de-listing.** Prompt down-listing and de-listing of species when warranted are critical to the success of the ESA. The CONGRESS should give these actions emphasis equal to that of listing. Specifically:

- Down-listing or up-listing should be done administratively based on criteria in a recovery plan that meet the standards of the ESA and should not be subject to the current process required for listing, de-listing and changes in status of a species.
- The de-listing process should be triggered when the criteria established by a recovery plan are met.

► **Recovery planning deadlines.** The FWS and the NMFS adopted a policy that requires completion of a draft recovery plan within 18 months of listing and a final recovery plan within 12 months of completion of the draft plan.

► **Affirmative species conservation by Federal agencies.** Fourteen federal agencies have entered into an unprecedented agreement to improve efforts to recover listed species. Each agency has agreed to identify affirmative opportunities to recover listed species and to use its existing programs or authorities toward that end.

9. Promote Efficiency and Consistency.

ISSUE DEFINITION: The FWS and the NMFS have been criticized for carrying out the ESA inconsistently and inefficiently.

Administration Position: The ESA should be administered efficiently and consistently within and between the Departments of Commerce and the Interior. Therefore, the Administration has initiated the following reforms:

► **Joint NMFS/FWS standards and procedures.** The NMFS and the FWS are committed to administering the ESA in an efficient and consistent manner so that the public always gets one answer from the two agencies and from different offices within the same agency. The agencies will standardize their policies and procedures through issuance of joint orders, guidance, regulations, and increased training. Consequently, each policy identified in this package is being implemented or proposed jointly by the FWS and the NMFS.

► *Joint section 7 consultation policies and procedures.* The FWS and NMFS, for example, have published a draft handbook for public review and comment that will standardize the policies and procedures governing section 7 consultations between the Services and other federal agencies concerning actions by those federal agencies that may affect a listed species.

► *National federal working groups.* The agreement by 14 Federal agencies identified above established a national interagency working group to identify and coordinate improvements in Federal implementation of the ESA, including identification and resolution of issues associated with interagency consultations undertaken pursuant to section 7(a)(2) of the Act.

10. **Provide State, Tribal, and Local Governments with Opportunities to Play a Greater Role in Carrying Out the ESA.**

ISSUE DEFINITION: State, tribal, and local governments have expressed strong interest in greater utilization of their expertise and in playing a greater role in the ESA's implementation.

Administration Position: Building new partnerships and strengthening existing ones with state, tribal, and local governments is essential to achieving the ESA's goals in a fair, predictable, efficient and effective manner. Therefore, the Administration has initiated and will support the following reforms to establish a new cooperative federal-state relationship to achieve the goals of the ESA:

► *Participation of Indian tribal governments.* The Departments of the Interior and Commerce will, in consultation with Indian tribal governments, propose a policy directive to clarify the relationship of Indian tribal governments to the ESA and to provide greater opportunities for the participation of these governments in carrying out the Act.

► *Participation of State fish and wildlife agencies.* The FWS and the NMFS have issued a policy directive to their staff which recognizes that State fish and wildlife agencies generally have authority and responsibility for protection and management of fish, wildlife and their habitats, unless preempted by Federal authority, and that State authorities, expertise and working relationships with local governments and landowners are essential to achieving the goals of the ESA. The policy directive, therefore, requires that State expertise and information be used in pre-listing, listing, consultation, recovery, and conservation planning. It further requires that the Services encourage the participation of State agencies in the development and implementation of recovery plans.

► *Facilitate State efforts to retain management authority.* The CONGRESS should provide a State with opportunities and incentives to retain its jurisdiction over management of a threatened or endangered species within its jurisdiction. Specifically:

- To encourage states to prevent the need to protect species under the ESA, the ESA should explicitly encourage and recognize agreements to conserve a species within a state among all appropriate jurisdictional state and federal agencies. If a state has approved such a conservation agreement and the Secretary determines that it will remove the threats to the species and promote its recovery within the state, then the Secretary should be required to concur with the agreement and suspend the consequences under the ESA that would otherwise result from a final decision to list a species. The suspension should remain in place as long as the terms or goals of the agreement are being met. The Secretary should be authorized to revoke a suspension of the consequences of listing if the Secretary finds that a state conservation agreement is not being carried out in accordance with its terms.
- Conservation agreements among all appropriate state and federal agencies within a state should be reviewed and updated on a regular basis.
- Each appropriate federal and state land management agency that signs a conservation agreement to remove threats to a species and promote its recovery should be required to ensure that its actions are consistent with the terms of that agreement.
- Suspension of the consequences of listing a species pursuant to an approved state conservation agreement should be permitted at any point before or after a final listing decision.

► *Special consideration of State scientific information.* The CONGRESS should recognize that the States have substantial expertise concerning species within their jurisdiction by requiring that special consideration be given to State scientific knowledge and information on whether a species should be proposed for listing under the standards of the ESA, as described below:

- Petitions should be sent to each affected State fish and wildlife agency. If a State fish and wildlife agency recommends against proposing a species for listing or de-listing, the Secretary should be required to accept that recommendation unless the Secretary finds, after conducting independent scientific peer review, that the listing is required under the provisions of the ESA.

► **Lead State role on recovery planning.** The CONGRESS should provide States the opportunity to assume the lead responsibility for developing recovery plans and any component implementation agreements.

- In those cases in which a species' range extends beyond the boundaries of a single state, there should be a mechanism to ensure participation by and coordination with each affected state in the development of the plan for the species' recovery.
- The Secretary should approve a state-developed recovery plan unless the Secretary finds that it is not adequate to meet the standards of the ESA.

► **Lead State role on non-federal habitat conservation.** Decisions concerning use of non-federal lands should be made to the extent possible by state and local governments. Therefore, the CONGRESS should:

- Specifically authorize appropriate State agencies, as well as the Secretaries, to enter into voluntary pre-listing agreements with cooperating landowners to provide assurances that further conservation measures would not be required of the landowners should a species subsequently be listed. Landowners who have satisfactorily demonstrated that they will protect candidate species or the significant habitat types within the area covered by a pre-listing agreement should be assured that they will not be subjected to additional obligations to protect species if the candidate species or additional specific species not covered by the agreement but dependent upon the same protected habitat type are subsequently listed under the ESA.
- Provide a State with the opportunity to assume responsibility for issuing permits under section 10(a)(2) for areas within the State which have been identified for such assumption in an approved recovery plan or for which there is otherwise an approved comprehensive, habitat-based state program.

► **Remove obstacles to Federal/State/Tribal cooperation.** Federal, state, tribal and local governments should be able to cooperate and fully coordinate their actions in carrying out the ESA. Specifically, the Secretary should be exempt from the provisions of the Federal Advisory Committee Act in cooperating and coordinating with state, tribal or local governments in carrying out the ESA.

CONCLUSION

This reform package reflects the Administration's strong commitment to carry out the ESA in a fair, efficient and scientifically sound manner. The improvements that have been initiated and the legislative action recommended build on the existing law to provide effective conservation of threatened and endangered species and fairness to people through innovative, cooperative, and comprehensive approaches.

Testimony of
Rolland A. Schmitten
Assistant Administrator for Fisheries
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Before the
Endangered Species Act Task Force
U.S. House of Representatives

May 25, 1995

Mr. Chairman and members of the Task Force: I am Rolland Schmitten, Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce. It is a pleasure to be here today to discuss the reauthorization of the Endangered Species Act (ESA).

The ESA is an extremely important and necessary piece of legislation and its basic goals should remain unchanged. The ESA was enacted over twenty years ago, and for the most part our experience has shown that the goals of species conservation and sustainability of commercial and recreational opportunities are compatible. While the ESA has worked well, the Administration has been making many administrative changes and has suggested some related legislative modifications which are reflected in the March 6, 1995, joint ten point plan issued by Secretary Babbitt and Under Secretary Baker to improve the ESA.

Introduction

NMFS shares ESA responsibility with the Interior Department's Fish

and Wildlife Service (FWS). NMFS and FWS administer the ESA programs similarly, but in a few areas which I will mention, NMFS is unique. NMFS has jurisdiction over most marine species and the FWS is responsible for birds, terrestrial and most fresh water species. NMFS has jurisdiction over sea turtles when they are at sea and the FWS has jurisdiction when they are nesting on beaches. The two agencies share responsibility for Gulf sturgeon.

NMFS is responsible for protection for over 30 marine and anadromous species under the ESA. These include whales, sea lions, seals, sea turtles, various West Coast chinook and sockeye salmon; and Gulf and Shortnose sturgeon. Although I cannot over-emphasize that the ESA is meant to protect all animals, large and small, NMFS' listed species are truly magnificent animals. They have a special place culturally, aesthetically and biologically in our world.

Most of the marine species that have been listed by NMFS are highly migratory and may have ranges across international boundaries, multiple states and regions of the country. Managing the recovery of species that travel through multiple jurisdictions including local, state, tribal, federal and international, requires an enormous amount of planning, flexibility and coordination. NMFS headquarters has provided oversight that has been important in providing for national consistency while allowing for local flexibility.

The ESA mandates the protection and conservation of species and populations that are endangered, or threatened with extinction, and the conservation of the ecosystems on which these species depend, by all Federal agencies. Our efforts to accomplish these goals reflect NMFS' strong environmental concerns, while not losing sight of other priorities for sustainable economic development and environmental stewardship. Our actions conserve endangered and threatened species, while at the same time, allowing for the commercial and recreational use of other marine and anadromous resources as well as economic opportunity.

NMFS Stewardship of the Nation's Living Marine Resources

The most efficient and effective way to conserve species is to prevent them from becoming threatened or endangered in the first place. Other environmental laws -- including the National Environmental Policy Act, the Fish and Wildlife Coordination Act, the Magnuson Fishery Conservation and Management Act, the Clean Water Act, and the Marine Mammal Protection Act -- if used properly, provide mechanisms to prevent listing of species. NMFS and other resource agencies have developed programs to conserve species before they become protected under the ESA. These efforts include habitat conservation plans, information exchange, and joint data collection on the status of species.

ESA Decisions Occur at the Local Level

Once an ESA petition is accepted for review, ESA actions begin in

NMFS' regional and field offices. The vast majority of NMFS employees answer directly to a regional director in one of the five regions. Our field personnel have established close working relationships with their state resource agency counterparts, the field offices of other Federal agencies, local governments, tribal organizations, and other public and private groups.

As a former Northwest Regional Director, I know how important it is for NMFS personnel to have direct contact and a stake in the communities their actions affect. Take for example, the listing process. Many times it begins with a petition to NMFS from an individual, a fishing organization, or a local conservation group, requesting ESA protection for a species. Section 4(b)(3)(A) of the ESA requires a determination, within 90 days after receiving a petition, of whether the petition presents substantial scientific and commercial information to warrant further action. Most NMFS listing actions are the result of petitions received from the public.

If a petition presents information that a listing may be warranted, NMFS initiates a status review for the species. The status review sets the groundwork for all subsequent actions with regard to conservation of the species. Therefore, in many cases, NMFS assembles a biological review team of scientists and other experts from outside the agency familiar with the species and area. They provide information to NMFS for use in the status review of the

species. NMFS utilizes this process to help guarantee that the best science is used in the initial stages of the ESA listing process.

Under ESA Section 4(b)(3)(B), NMFS makes a finding within one year about whether the proposed listing is warranted or not. If a petition action is warranted, a general notice of proposed listing is published. During this time the public is encouraged to and actively participates in public meetings and provides written comments on the proposed listing. The regional office reviews and responds to written comments. NMFS also coordinates its actions with state and tribal governments to provide further local input prior to release of the status review. All this information is compiled and analyzed in the field along with other information collected independently by NMFS. Within one year of that proposed listing, NMFS is required under ESA Section 4(b)(6)(A) to make a final determination.

Once a species is listed, the ESA requires section 7 consultations be conducted with Federal agencies on activities that may affect the species or its critical habitat. It ensures that any action authorized by a Federal agency is not likely to jeopardize the continued existence of an endangered or threatened species, or to destroy or adversely modify its critical habitat.

Since 1990, NMFS has conducted over 400 formal section 7 consultations, including fisheries management plans over which NMFS has jurisdiction. In almost every case the consultations ensured that Federal activities could be carried out without being likely to jeopardize a listed species or critical habitat. Of these consultations, only 11 resulted in a conclusion that the activity would jeopardize the continued existence of listed species. In all 11, reasonable and prudent alternatives were identified that allowed the activities to continue with modifications that would protect the species.

We believe that in many instances the consultation process can be streamlined through addressing large scale programs that may culminate in project-specific actions. NMFS encourages the use of a programmatic method whenever it is appropriate to eliminate redundancy. NMFS has used this method in three cases where it issued biological opinions: hopper dredging in the southeastern United States (U.S. Army Corps of Engineers); removal of certain oil and gas platforms and related structures in Federal waters in the Gulf of Mexico (issued to the Minerals Management Service); and impact of shrimp trawling in the Southeastern United States (NMFS). NMFS is also determining the feasibility of using the programmatic method for all West Coast and Alaska salmon fisheries.

The biological opinion with Mineral Management Service, which addresses structure removals, analyzes the impacts on listed

species associated with the required removal of offshore structures no longer needed for oil and gas production. To date more than 500 structures have been removed under the criteria set up by the program opinion. This single programmatic consultation allowed for the removal of structures that follows set criteria and avoided the need for a biological opinion before each rig removal.

NMFS must designate habitat critical for the conservation of listed species. Most of the marine species listed by NMFS are highly migratory and their ranges extend well beyond the immediate location of the species. For example, rookeries and other haul-out areas for pinnipeds (seals) are essential to their existence but only during very short periods of their life cycle. NMFS has designated critical habitat for Steller sea lions which includes major rookeries and haul-outs in Alaska, California and Oregon. In addition, two special aquatic foraging areas in the Bering Sea/Aleutian Islands, and a third in the western Gulf of Alaska, were designated.

The designation of critical habitat, if determined to be beneficial to the species, should be part of the recovery process, not the listing process, and this is recognized in the Administration's ten point plan. The definition of critical habitat is tied to the conservation of the species, which makes it more appropriate as part of recovery. In addition, this would allow for further research and information as well as involvement of the recovery

team in the designation of critical habitat. Recovery plans are developed by regional teams that devise solutions utilizing the best available science, and taking into account the economic impacts of conservation actions and the views of affected resource users, managers, conservation groups, and other interested parties. The broad ESA strategy to accomplish this task directs the development and implementation of "recovery plans."

In coordinating the recovery plans we use implementation teams involving regional representatives. The Southeastern and New England Implementation Teams for the recovery of the right whale are a good example of regionally based groups that include representatives from county, state and Federal agencies, private organizations, and researchers. The goal of the Southeastern team is to reduce to zero human-induced mortality caused by collision between right whales and the large vessels that transit this area. Collision is a significant impediment to the recovery of this species. The New England team is examining the cumulative effects of the multiple discharges of waste and other matter that are being dumped into Massachusetts and Cape Cod Bays, the effects of vessel traffic on whale behavior, and the potential effects of commercial fishing on all protected species in New England.

Coordination of Policies

NMFS works closely with the Department of the Interior and other Federal agencies to ensure that our ESA policies, guidelines, and

programs are consistent. This is essential for Federal agencies, which must consult with NMFS and have a duty to conserve listed species. It is equally important for all other groups, whether private or state, tribal, or local governments, to know that, when their activities bring them under the authority of the ESA, they will receive fair and consistent treatment from the Federal government.

Demonstrating our commitment to operate consistently and to include those who are affected by the ESA within the decision-making process, NMFS and FWS a year ago jointly issued the following policies:

1. Peer Review - This policy clarifies the role of peer review in ESA-related activities undertaken by NMFS and FWS. The policy complements -- but does not circumvent or supersede -- the current public review process in the listing and recovery programs.

2. Recovery Planning and Participation - This policy minimizes social and economic impacts, consistent with timely recovery of listed species. It expands public participation through the public notice and comment period into the recovery planning process.

3. Take Guidelines - This policy establishes procedures, when a species is listed, for identifying activities that will or will not constitute a taking of the species.

4. Ecosystem Approach - This policy clarifies how NMFS and FWS will incorporate ecosystem considerations in all ESA activities.

5. Information Standards - This policy establishes criteria,

procedures and guidelines to ensure that decisions of NMFS and FWS are based on the best available scientific and commercial data.

6. Participation of State Agencies in ESA Activities - This policy clarifies how States participate in the ESA activities of NMFS and FWS -- including prelisting, listing, consultation, recovery, and issuance of permits.

On December 21, 1994, NMFS and FWS issued a proposed joint draft policy regarding the recognition of distinct vertebrate population segments. This policy is consistent with our November 20, 1991 policy on applying the definition of species to Pacific salmonids. NMFS has had several workshops on the subject on species definition, including a national one in May 1994 with the American Fisheries Society. We will continue to hold workshops with experts and affected parties on this very important subject.

Providing Certainty in Activities

NMFS is actively engaged in efforts to protect species that are at risk of being listed. We are doing this most actively in the West where we are working with Federal, state and private landowners to protect anadromous fish that are not presently listed under the ESA. Our current focus in this area is to work with landowners - either private or state - that are already working with FWS on Habitat Conservation Plans for spotted owls and marbled murrelets. Our goal is to make it easier for these landowners to conduct activities while allowing for the conservation of wildlife. Then,

if, for example, other salmonids are listed under ESA in the future, the bulk of the conservation work will have been finished, thus making life easier for non-Federal landowners.

Most of NMFS' listings involve species in marine environments and do not affect private property owners. Through the "no surprises" policy jointly adopted by NMFS and FWS last year, private landowners participating in approved habitat conservation plans will be assured that they will have no increased ESA obligations, for species covered by a plan, for the life of the plan.

To further assure landowners, NMFS supports the proposed Small Landowners Exemption. The proposed regulations will exempt the following from ESA prohibitions that protect most threatened species: activities on residential tracts of land, activities (including commercial) affecting 5 acres or less of contiguous property, and other activities identified as negligible. This is a major provision in the Administration's package to improve the ESA. NMFS strongly supports the small landowners exemptions and other points in the Administration's package of reforms. We think that it is important to clearly identify activities prohibited by an ESA listing. Currently, when NMFS lists a threatened species, it usually identifies prohibited acts under section 4(d) of the ESA. This flexibility is allowed for threatened species through section 4(d) of the act, but it should also be made available for endangered species. By doing this, the public is given a better

opportunity to understand what type of activities would still be permissible.

Through an interagency working group, NMFS, FWS, and other interested agencies are pursuing other initiatives for regulatory/administrative reform, such as section 7 guidelines, to ensure consistency among the agencies in carrying out the mandates of the ESA.

Building on Cooperative Efforts with State and Local Communities

Section 6 of the ESA enables NMFS to develop partnerships with states to further species protection and conservation efforts. NMFS has section 6 agreements with South Carolina, Georgia, and New York. So far, because of funding constraints, NMFS has limited this program to these modest but effective efforts. In 1996 NMFS is requesting \$2 million to expand this program. Our goal is to enter into at least three agreements annually until all coastal states that wish to participate have agreements. This effort is consistent with the Administration's plan to increase state involvement in the recovery process and facilitate the exchange of information among governments, academic institutions, businesses, and concerned individuals.

NMFS also intends to continue using its ESA section 10 authority in an approach to allow designated states to regulate activities under that authority. In these situations NMFS will issue a broad

section 10 permit to the state covering all activities subjected to those state regulations. This avoids the need to burden individuals with a layer of Federal bureaucracy in addition to state regulation of their activities. For example, a section 10 incidental take permit has been issued to Idaho for sport-fishing. This authority allows the Idaho Department of Fish and Game to license recreational fishing in areas utilized by endangered and threatened fish. This action provides continued opportunities for recreational fishing.

Conclusion

As NMFS focuses more on the long-term goal of the ESA -- recovery of listed species -- the challenges (and sometimes the obstacles) become even greater. The ESA has been in effect for more than 20 years, and the need to protect threatened and endangered species is greater than it has ever been. The implementation of the ESA must be flexible to new challenges. This flexibility can be obtained through legislative or administrative changes. The Administration has made a series of administrative improvements and legislative recommendations to accomplish this goal. These efforts embody the Administration's philosophy of ecosystem based management allowing for economic development, recovery of listed species and the prevention of further species listings.

Thank you for this opportunity to testify before the Task Force.
I will be pleased to answer any questions you may have.

STATEMENT OF
DAVID G. UNGER, ASSOCIATE CHIEF
FOREST SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

Before the
Endangered Species Act Task Force
Committee on Resources
United States House of Representatives

Concerning Implementation of the Endangered Species Act

May 25, 1995

MR. CHAIRMAN AND MEMBERS OF THE TASK FORCE:

Thank you for the opportunity to discuss activities of the Forest Service involved in the implementation of the Endangered Species Act (ESA) on National Forest System lands.

Review of Forest Service Statutes

Before addressing implementation of ESA, I think it is important to highlight an initiative by the Department of Agriculture intended to make the Forest Service a more effective and efficient agency. On April 12, Secretary Glickman asked for a review of the laws, regulations, and policies that guide the management of National Forest System lands. At his request, a task force of Forest Service and Office of the General Counsel personnel was

formed by Under Secretary Lyons to (1) enumerate the statutes, regulations, and policies that guide the activities of the Forest Service, including those that other agencies administer that affect activities on National Forest System lands, (2) evaluate how these authorities relate to each other, whether they conflict, and where conflicts occur, and (3) recommend measures for streamlining, reducing conflicts, redundancy, and improving cost efficiency. Additional guidance has focused this effort on the relationships between seven key statutes, of which the ESA is one. The report is due to the Secretary by June 1.

This effort reflects the Secretary's commitment to apply common sense to the rules and regulations that guide the Department of Agriculture.

Program Responsibilities

The Forest Service has multiple-use management responsibilities for 191 million acres of forests, rangelands and grasslands in the National Forest System. The challenge for the Forest Service is to provide uses, values, products and services for the American people while ensuring protection of basic resources, including threatened and endangered species. As we have seen in the Pacific Northwest with the spotted owl and salmon issues, as an example, this is no easy task.

Conservation and Recovery Efforts

About one-third of all species currently listed under the Endangered Species Act are known to occur on the National Forests and Grasslands. As other lands and habitats come under increasing human pressure, public lands are becoming more important for rare species and species at risk.

The Forest Service has been successful in protecting and improving habitat conditions for many threatened and endangered species throughout the United States and instrumental in focusing attention on international conservation efforts. With help from the Forest Service, the bald eagle, peregrine falcon, grizzly bear, eastern timber wolf, black-footed ferret, Puerto Rican parrot, and greenback cutthroat trout have been brought back from the brink of extinction. Several of these species have been or are under consideration for being reclassified from Endangered to Threatened status.

We recognize that recovery of threatened and endangered species is not a quick or simple process. Recovery efforts are expensive and have required significant reductions in certain activities such as timber harvesting. In 1993, the Forest Service spent \$39 million on measures to protect 253 listed species. Of this amount, \$8.3 million went to Forest Service research to support studies on 69 listed species. The majority of threatened and endangered Species

expenditures were spent on 12 species: the bald eagle, northern spotted owl, red-cockaded woodpecker, four Snake River salmon stocks, grizzly bear, gray wolf, peregrine falcon, Mexican spotted owl and marbled murrelet.

Role of Forest Service Research in the Threatened and Endangered Species Program

Research plays a critical role in the Forest Service's management and recovery efforts for threatened and endangered species. Species are at greatest risk when we lack the basic understanding of what an organism requires for its existence or when we are unable to predict how a particular ecosystem will respond to a change. The role of Forest Service research is to acquire both the knowledge of the habitat needs of threatened and endangered species and the ability to predict how threatened and endangered species will respond to habitat manipulation. Forest Service research has been instrumental in the successful recovery efforts involving the grizzly bear and red-cockaded woodpecker and in assisting in the ongoing recovery efforts for many other species.

Sensitive Species Program

Early on, we embraced the notion that the best way to conserve threatened and endangered species is by implementing a proactive strategy that, through protection and habitat conservation, can prevent the need for listing. Waiting for a species to be listed

before initiating conservation measures is simply too late. In 1980, to formalize this approach, the Forest Service created a sensitive species program. Under this program, we identify species of concern and implement habitat conservation strategies before their survival is clearly at risk. So far, we have designated about 2,300 species of plants and animals as sensitive. Many of these species exist together in rare or unique communities. Our conservation strategies emphasize ecosystem restoration and multi-species approaches.

In the past year, we have increased efforts to work with other Federal agencies and non-federal partners to further this listing-prevention strategy. An agreement was signed last year with four federal agencies, including the two ESA regulatory agencies. This agreement provides the framework for avoiding listing under the Endangered Species Act of additional species through the development of conservation assessments, strategies and agreements. Just last week, a conservation agreement to protect the Arizona Willow was signed with the National Park Service and the U.S. Fish and Wildlife Service in cooperation with the Arizona Game and Fish Department, Utah Division of Wildlife Resources and the White Mountain Apache Tribe. Implementing this agreement is designed to negate threats to this species and avoid the need to list it under ESA.

Section 7 Consultation

The consultation process is perhaps the most contentious aspect of ESA. Most Section 7 consultations are completed in a manner that allows the Forest Service to complete land management activities in a timely fashion. Approximately 85 percent of Forest Service projects are determined to: (1) not affect federally listed species, and therefore do not require involvement of the regulatory agencies; or (2) are handled through informal consultation when Forest Service biologists determine that an activity is not likely to adversely affect listed species, and FWS or NMFS concur.

When formal consultation occurs, it usually is completed within the regulatory time frame of 135 days from the date the action agency requests it (this includes 90 days to conclude the consultation, with the biological opinion being delivered within the following 45 days). For Region 1 of the Fish and Wildlife Service (headquartered in Portland, Ore.), for example, the average turnaround time for Section 7 biological opinions is 83 days, and the Region recently committed to reduce that time to 60 days or less.

Although we have delays in implementing Forest Service projects because of formal consultations not being completed within the regulatory time frame, no Forest Service proposed action has been

stopped because we could not find a reasonable alternative that would accommodate the needs of a listed species.

The consultation process can be unwieldy when new information, such as a listing decision, comes to light when project planning and analysis is near completion or after a project has begun. Consultations must be completed before work on these projects can continue--regardless of the disruption or loss of investment caused by the delays. This situation is especially acute when the consultation involves a species, such as the Snake River salmon, that is distributed over a broad range. The work generated by a new listing often strains the capabilities of the National Marine Fisheries Service and the Fish and Wildlife Service to complete timely consultations.

There are several new interagency efforts to streamline the consultation process. In March, the Forest Service, BLM, Fish and Wildlife Service and National Marine Fisheries Service agreed to a joint approach for streamlining consultations related to forest health and timber salvage projects. In addition, Section 7 consultations are increasingly being "batched" to facilitate consultation on numerous similar projects. When such consultations are combined, the process is expedited. Also, the Executive Branch agencies are working together to develop counterpart regulations which are intended to streamline consultations on programmatic actions. All of these efforts should minimize delays in the future.

Future Direction

We fully support the purpose of the Endangered Species Act and are committed to effective implementation of the law. We are working diligently with the Fish and Wildlife Service and the National Marine Fisheries Service to improve interagency coordination. We support efforts to streamline and simplify the Act consistent with its objective of species conservation. We hope to work with this Task Force and others in efforts to improve and streamline the approach to species conservation and overall resource management. This concludes my prepared remarks. I will be pleased to answer your questions.

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POSITION STATEMENT

TESTIMONY OF
THOMAS A. KOURLIS, COMMISSIONER
COLORADO DEPARTMENT OF AGRICULTURE
ON BEHALF OF THE
NATIONAL ASSOCIATION OF STATE DEPARTMENTS OF AGRICULTURE
BEFORE THE
HOUSE COMMITTEE ON RESOURCES
TASK FORCE ON ENDANGERED SPECIES ACT
U.S. HOUSE OF REPRESENTATIVES
MAY 25, 1995

re: Reauthorization of the Endangered Species Act

Good morning Mr. Chairman. My name is Tom Kourlis, and I am the Commissioner of the Colorado Department of Agriculture and Chairman of the Endangered Species Committee for the National Association of State Departments of Agriculture (NASDA). It is a pleasure to appear before this Task Force on behalf of NASDA to discuss the reauthorization of the Endangered Species Act (ESA). NASDA is the nonprofit association of public officials representing the Commissioners, Secretaries and Directors of Agriculture in the fifty states and the territories of American Samoa, Guam, Puerto Rico, and the Virgin Islands. As the chief state agriculture officials, NASDA's members are keenly aware of the importance of balancing agricultural production and natural resource conservation on their state's and the nation's economy.

I am a sheep and cattle rancher in northwestern Colorado and am actively involved in the ranch my father founded in 1926. I have managed the ranch on behalf of myself and three generations of my family for 22 years. My ranch is located in the Axial Basin along the Yampa River, which is a tributary to the Colorado River. The reach of the Yampa River that runs through my meadows has been designated as critical habitat for endangered fish species.

Neighboring rangeland is being considered as a site for future reintroduction of endangered black footed ferrets, which have been raised in captivity. If that happens, many business activities, including grazing sheep and cattle, will be affected within a seven-mile radius of the ferrets' new home.

IMPLEMENTATION OF THE ESA

I am here today to discuss how we can make the Endangered Species Act better, and how it can be made to work for those of us in agriculture who are in a position to voluntarily cooperate with species recovery efforts.

NASDA IS A NONPROFIT ASSOCIATION OF PUBLIC OFFICIALS REPRESENTING THE COMMISSIONERS,
SECRETARIES AND DIRECTORS OF AGRICULTURE IN THE FIFTY STATES AND FOUR TERRITORIES.

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In my view, the protection of threatened and endangered species depends on three key principles: 1) Developing cooperative relationships among federal, state, and local governments, and private landowners to defuse the fear of federal authority; 2) Assuring that recovery efforts include not only biological integrity but also cost effectiveness; and 3) Setting realistic goals so that recovery programs have credibility with citizens who will be willing to participate. The success of new, cooperative relationships between those affected by the Endangered Species Act will depend on rewriting the Act in such a way that all vested parties share management decisions.

With over 20 years experience with the ESA, we have too few biological successes and too many instances of failure. Perhaps Congress should consider a different approach to ESA implementation. Let me offer a suggestion.

States should be given more authority so as to balance the powerful role of the U.S. Fish and Wildlife Service (FWS). The FWS currently holds all the cards, and this structure breeds resentment, distrust and gridlock in all implementation phases. If states shared more of the decisions for the success of ESA recovery plans, the atmosphere for cooperation and consultation would be greatly improved. I am endorsing neither federal primacy nor state primacy; what I am proposing is a federal-state partnership.

Such partnerships must offer all parties certainty what their public and private investments and activities will not be sacrificed, and that the costs of implementing the Act will be borne by society as a whole and not solely by the individual landowner, nonfederal landowners and federal land users (through permit fees).

It is my opinion that much of the controversy surrounding the existing Act is the result of an overzealous attempt to pursue "perfect" solutions to declining species problems. Those of us who have spent our lives watching the unpredictable and imponderable ways of nature know that often we must settle for something "good" rather than "perfect"—but, something that works. We must decide when "good" is good enough to meet the needs of declining species as well as the goals of society.

Let me give you an example. In order to hasten recovery of endangered fish and in keeping with the program goals of having a recovered species, should we not take fertilized eggs from the endangered fish that are native to the region and raise hundreds of offspring in captivity and release them into the critical habitat areas to jump start the recovery, rather than waiting for the self propagation of the species through habitat modification? A similar effort was initiated in Colorado, but when the fish were mature fish, the Fish and Wildlife Service denied permission to release them in the river.

While I recognize that this is met with resistance by some who are concerned about the preserving the purity of diverse gene pools, captive breeding and reintroduction will not replace habitat improvement plans as a means of recovering self-sustaining populations, but it will greatly improve the odds of success. And, it may prevent the extraordinary expense of excessive habitat restoration.

"WHOLE FARM/RANCH PLANS" AND "SAFE-HAVEN AGREEMENTS"

Let me turn to the tools that are needed to realize these goals. NASDA is one of the national agricultural organizations proposing just such a voluntary, incentive-based partnership. We support the concept of voluntary "total resource management plan" for farmers and ranchers. As proposed by NASDA, these whole farm and ranch resource plans — which could include soil erosion management, crop nutrient management, integrated pest management, animal waste management, water quality goals, range management, wetlands management, and species habitat management — will provide the technical and financial assistance necessary for farmers and ranchers to voluntarily enhance their resources and provide improved wildlife habitat. Such plans will allow farmers and ranchers to act rather than react, providing better habitat for species before they become threatened or endangered.

These plans would address multiple species habitat conservation on private land in a voluntary fashion and approval of such a plan should give landowners the certainty they would be in compliance with provisions of the Endangered Species Act. We strongly encourage this Task Force to include language in the reauthorization of the Endangered Species Act that would recognize an approved whole farm or ranch natural resource plan, and its implementation as a compliance mechanism for the Endangered Species Act. This is a compatible approach to that taken by the House when it recently passed H.R. 961, a bill to reauthorize the Clean Water Act (CWA). H.R. 961 provided that a farmer or rancher who develops and implements a whole farm or ranch natural resource management plan will be in compliance with the CWA.

We also support the concept of a "safe-haven" agreement. Such an agreement would allow designated state agencies to enter into voluntary, pre-listing agreements with landowners to assure habitat conservation of candidate species. A landowner with such a plan to address the needs of habitat conservation would not face additional obligations under the Endangered Species Act if the candidate species, or another unforeseen species, were to be listed at a later time.

This concept, which is very similar to the "No Surprises" policy and the "Voluntary Incentives for Landowners" outlined by the Secretary of Interior in March, 1995, would defuse the fears that many landowners have about voluntarily creating wetlands or wildlife habitat on their farms. In many cases, farmers who would prefer to enhance wildlife habitat resist doing so out of fear of the Endangered Species Act. They realize that the arrival of an endangered species on their property can trigger costly regulatory procedures and severely limit their options for using their land. "Safe-haven" and "whole farm/ranch plans" language in the reauthorization would remove those fears, and offer safety and certainty not only for imperiled species but also for property owners.

COST EFFECTIVENESS

In this era of limited federal resources species listing and designation of critical habitat should take into consideration the cost-effectiveness and the probability of success of a recovery program. It will be increasingly important to insist that recovery programs have a high probability of success before investing scarce resources in them. This may mean a return to a "triage" approach that first addresses the neediest species with the greatest probability of recovery. This approach will be necessary as tax dollars are stretched to cover other crucial societal needs. Common sense dictates that in an era when we are considering maximizing effectiveness in all government programs, we must also examine the social and economic impacts of listing endangered species.

We should avoid duplication between state and federal recovery efforts by streamlining ESA regulations: 1) for the listing of species; 2) for the designation of critical habitat; 3) for recovery programs; and, 4) for delisting species based on clearly defined recovery goals that are specified at the beginning of the recovery effort.

REAUTHORIZATION OF THE ESA

In addition to specific language on whole farm and ranch natural resource management plans and "safe-haven" agreements mentioned above, the following should be considered when reauthorizing the Act.

- The reauthorization should tighten the listing process to require petitioners to have a greater burden of proof showing that the listing is needed. The requirement of "substantial information" needs to be defined more comprehensively and reviewed by third-party peers to make sure that an adequate, scientifically-defensible argument exists for listing a species. If information exists that contradicts the need for listing, that information should receive equal analysis and peer review in the listing process.

- A great deal of confusion, controversy and expense has arisen from language in the Endangered Species Act that does not define "species" and "subspecies" and "population" with the generally accepted definitions used by biologists (CRS Report 92-944 ENR, Dec. 15, 1992). It is particularly important that "subspecies" be differentiated from "populations" in the language of the law so that arbitrary and inconsistent interpretations are not made when listing species. While it is important to protect species, it is not feasible to protect each discrete population of a subspecies.
- Critical habitat should be limited to the area where there is a realistic possibility of recovering the species rather than requiring that the entire historic range be included. This often jeopardizes existing or future private land uses. Listing of species should be delayed until realistic critical habitat has been designated for recovery purposes.
- The reauthorization of the Act should allow the Secretary of Interior to defer the recovery of species to the states if the states have recovery programs in place to conserve the appropriate habitat. State programs, approved by the Secretary of Interior, should serve as a reasonable and prudent alternative for Section 7 consultations on federal actions.
- Recovery plans should have clearly defined goals with measurable objectives. Adaptive management is desirable in that it allows recovery programs to adjust to the unpredictable biological responses to habitat modification. However, sole reliance on adaptive management can result in disputes among scientists as to what constitutes sufficient progress and successful recovery. Agreed upon goals should be set at the outset, and adaptive management should be used to reach them.
- Delisting of recovered species should occur promptly after recovery goals are met.

CONCLUSION

In closing, the reauthorization bill should stress voluntary cooperation within the structure of the Endangered Species Act to meet its goals. There is good reason for that view. In December, 1994, the United States General Accounting Office published "Endangered Species — Information on Species Protection on Non-federal Lands." The report points out that the predominant number of species protected under the ESA have the major share of their habitat on nonfederal lands. Specifically, of the 781 listed species for which the Service was responsible as of May, 1993, 712 — over 90 percent — have habitat on nonfederal land.

It is clear to me that the federal government simply does not have the resources to continue to force those state, tribal, and local governments, and private landowners into compliance or to hold public projects hostage while species protection programs proceed at a snail's pace. If the Act is to be effective and to realize its goal of recovering species and restoring habitat, it must enlist landowners as active partners.

STATEMENT OF DANIEL SIMBERLOFF, ROBERT O. LAWTON
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UNIVERSITY, TALLAHASSEE, FLORIDA MAY 25, 1995

Mr. Chairman and other members of the committee, I am grateful for the opportunity to discuss scientific issues regarding protection of threatened and endangered species.

THE PROBLEM

Currently 728 species of animals and vascular plants are listed as Endangered or Threatened under the Endangered Species Act. Most of these are threatened by destruction of their habitat, mirroring the trend worldwide. For example, 67% of all threatened vertebrates are threatened by habitat destruction (Prescott-Allen and Prescott-Allen 1978), while 90% of all threatened freshwater fishes in North America are threatened by habitat destruction (Wilson 1992). The second greatest cause of imperilment is the impact of introduced species, and the greatest impact of these species is that they change the habitat (U.S. Congress, O.T.A. 1993). So habitat destruction is the key to the crisis of species loss.

And it is a crisis. Even though species have gone extinct throughout the history of life, they are doing so at about 100 times historic rates for well-studied groups like birds and mammals (Groombridge 1992). Just in the last 3 centuries there have been about 58 mammal extinctions, 115 bird extinctions, and at least 191 mollusc extinctions, and most of these took place within the last century. And these are of particularly well-studied groups in which the species are often widespread. For other kinds of organisms, there is every reason to believe that even more species have gone extinct, in some instances without our ever having studied them. The main reason we can say this with some certainty is ecology's oldest law, the species-area relationship, an empirical law which says that, on average, about half the species in a site are lost for every 90% reduction in area (Simberloff 1988). So, unless the unstudied species fail to conform to a relationship that every well-studied group of species obeys, we can extrapolate from known amounts of habitat destruction to say that the number of extinctions occurring is several times the documented number for poorly studied groups or regions.

The problem is acute in the United States: just in the last century we have lost 18 bird species (Ehrlich et al. 1992), 17 freshwater fish species (Miller et al. 1989), and 11 freshwater mussel species (Wells et al. 1983), as well as over 200 plant species (Wilson 1992). And currently about

22% of our vertebrates, 31% of our plants, and 60% of our freshwater mussels are critically imperilled (N.H.D.C.N. 1993). These are staggering percentages. The fact that most of these species are not listed under the Endangered Species Act simply reflects the delay in doing the requisite studies and paperwork.

HOW TO SAVE THESE SPECIES

1. What science can offer

The science of conservation biology has matured rapidly, particularly with the recognition that genetics and refuge design play key roles in maintaining species (Simberloff 1988). It has a large professional organization, the Society for Conservation Biology, which publishes a widely respected journal (Conservation Biology), while two other international journals (Biological Conservation and Biodiversity and Conservation) also deal with the full gamut of conservation science issues. Conservation biology has developed in typical cyclical scientific fashion by consideration of many ideas, rejection of those that did not fit the data, and use of the data to form better ideas, which in turn were tested, and the entire cycle started anew. A new textbook (Meffe and Carroll 1994) summarizes the impressive achievements of conservation biologists in determining causes of endangerment and extinction and various ways to deal with these phenomena.

However, I have occasionally heard conservation biologists unfairly blamed for our extinction crisis, on the grounds that they do not know how to save endangered species and ecosystems. Actually, they do know how to save endangered species and ecosystems, but the assigned task is never how to conserve a species or ecosystem. Rather, it is how to save a species but at the same time preserve certain human enterprises at a certain level. The considerations are predominantly economic, political, and sociological, not scientific. Conservation biologists are asked what is the minimum size of a population or of an ecosystem that can possibly survive, and are asked to determine such things very quickly, often in a few months or, at most, two years. Such "minimalism" is the subtext for most conservation decisions; small wonder that conservation biologists are seen as unsuccessful! If physicians were forced to develop treatments within a few months, then give the absolute minimum amount of any treatment or pharmaceutical consistent with survival or recovery of their patients, their failure rate would doubtless increase and their recommendations would be more debatable. Yet medicine would not be a poorer science because of different demands placed on it.

Conservation science is not a chief culprit in the extinction crisis.

2. The critical role of habitat

Because habitat destruction is the main cause of loss and imperilment of species, it comes as no surprise that saving them will require determination and protection of their critical habitat. The specific habitat requirements of each species are often subtle, but sufficient study always reveals them, and most species simply cannot be maintained outside their habitat. Fortunately, the habitat requirements of many species are similar enough that large groups of species can be maintained together in the same habitat.

Sufficient habitat conservation will require many partnerships among federal, state, and private landowners, because only 50% of federally listed species occur on federal lands (N.H.D.C.N. 1993). As just observed, many listed and candidate species occur in clusters because they have similar habitats, so that saving particular waterbodies and tracts of land can save numerous species simultaneously.

3. The phenomenon of "death from a thousand cuts"

The cumulative impact of numerous small losses of habitat, no one of which would appear to be the single loss that pushes a species irrevocably on the path to extinction, can be deadly (Odum 1982, Beanlands et al. 1986). This fact is increasingly evident as conservation biologists have come to understand that some species are structured as metapopulations, groups of populations occupying discrete sites, each occasionally going extinct locally, all loosely united by occasional movement of individuals between them (Hanski and Gilpin 1991). When the occupied sites become too isolated, movement is insufficient to compensate for ongoing local extinction and the entire metapopulation collapses - species extinction ensues. The fact that some species are structured as metapopulations means that even empty but suitable sites are critical to the maintenance of many species (e.g., Lande 1988).

4. Captive breeding can play at most a very minor role.

Captive breeding will not be of much help in dealing with the massive threat of extinction. For one thing, it is far too expensive; at most 900 terrestrial vertebrates (of ca. 23,000 worldwide) could be maintained this way in all the world's zoos, and even this number would require dramatic increases in zoo research and funding (Conway 1988).

Invertebrates and plants, which have far more species, present similar problems. Further, any attempt to maintain a substantial fraction of our species by captive propagation in order to allow continued habitat destruction will exacerbate the problem, as an ever-increasing number of species will require this assistance. But the most insidious fault with this solution is that continued captive propagation inevitably entrains natural selection for genotypes that are ill-adapted to life outside the propagation facility. In other words, the species evolve to be unsuited to nature. There are already numerous species in this bind, which must be maintained in parks and zoos; some of these species, like the European bison (or wisent), are large animals requiring massive amounts of food and space.

Further, any attempt to augment dwindling natural populations with captive-reared individuals carries substantial threats. Numerous populations of salmonid fishes that are highly adapted to local environments have been threatened or eliminated by interbreeding with hatchery-reared fishes (Allendorf and Waples 1995). Some of the lost traits were highly specific movement tendencies that allowed fishes to find the proper sites for spawning, and others were characteristics that simply make individuals more fit generally. In fact, a pervasive problem with interbreeding of individuals from nature and stocks reared in captivity, in both plants and animals, is "outbreeding depression," in which fitness of offspring and later generations declines because of the break-up of highly coadapted gene complexes (Simberloff 1988). In some fishes, such as the Coho salmon, the widespread use of hatchery stocks has had the perverse effect of causing entire species to evolve away from the traits prized for sport fishing and towards smaller and much less aggressive individuals (Gross 1991).

5. List species based on population trends, not just sizes

For most of the species that have been listed under the Endangered Species Act, population sizes were already quite low - they averaged ca. 1000 individuals for animals and ca. 100 individuals for plants (Wilcove et al. 1993). A very small number of individuals automatically puts a species at risk of extinction from numerous forces (Simberloff 1988), both ecological and genetic. Further, many species have gone extinct rapidly after their apparently substantial populations declined monotonically, for the most part before anyone noticed; all it takes for an apparently healthy species to be among the "living dead" is for average birth rate to be even slightly less than average death rate. And quite often, adult individuals of a species can survive but

breeding is rare or non-existent. In such a case, one would not see unusual death rates, and one might even see an apparently healthy population, but absence of recruitment has doomed the species. This phenomenon could be particularly dangerous in long-lived species; it would take years to know that there is an inexorable downward trend. Also, for many species, the real threats occur only episodically; most of the time populations are more than large enough to put them out of danger, but occasional "ecological crunches," caused by a severe winter, a hurricane, or other unpredictable events threaten their existence (Wiens 1989).

In short, it is impossible to tell for many species if they are on a course to extinction without demographic studies (Schemske *et al.* 1994), and such studies require years of monitoring, particularly for long-lived species. Even when there are many populations of a species, without intensive study of reproduction, mortality, and dispersal, one cannot be certain that a species' existence is not precarious, or even which populations are crucial to its existence. One development of the growing understanding of metapopulation structure is that some metapopulations comprise a few source populations, which produce most of the individuals that maintain the species, and many sink populations, which, though they may have many individuals, are irrelevant to population persistence (Pulliam 1988). One cannot determine which populations are sources and which are sinks without extended demographic research.

In sum, to determine whether a species is on a course towards extinction, we must study population trends. We know exactly how to do this, but it is not a short-term process.

6. Beware of crucial species interactions

In innumerable instances, one or several species depend utterly on another species (*e.g.* Meffe and Carroll 1994), and we cannot determine these dependencies without exhaustive study. We know how to conduct such research, but it is detailed and time-consuming. Often we discover the crucial role of some apparently rare and insignificant species inadvertently, when we lose it. The general concept of the keystone species (Paine 1969) is relevant. A key plant pollinator or disperser may play this role, for example. Often a predator or parasite controls a species that would otherwise completely dominate space, outcompeting many other species. Remove the predator or parasite and the formerly suppressed species becomes dominant, driving other species at least locally extinct.

There is a tradition of excellent, meticulous experimental research that detects these interspecific relationships and the keystone role played by particular species. This is expensive and time-consuming research, but there is no cheap shortcut available.

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POSSIBLE IMPLICATIONS FROM ESTIMATING TROPICAL EXTINCTIONS FOR
BIODIVERSITY POLICY

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Introduction

Loss of biodiversity due to human actions has become one of the critical environmental issues facing governmental and non-governmental organizations in the United States and other countries. Biodiversity is a natural resource and an endowment of a country and its loss through extinction results in a decline in natural capital that can not be restored. Thus, the challenge to develop effective public policies for controlling loss of biodiversity is especially important because of the irreversible nature of the extinction process.

Biodiversity policy has focused on species protection but there is growing recognition that other levels or types of biodiversity, ranging from genes to landscapes, also require protection. Species are a fundamental unit of biodiversity and can be monitored by population counts. Knowledge of species extinction rates is needed for policy making but extinction is difficult to quantify for a number reasons such as the large spatial scale of the process and the lack of taxonomists who can identify species. The purpose of this paper is to review some problems with estimating tropical extinctions and to suggest implications for biodiversity policy.

Estimating Tropical Extinctions

The Tropics is characterized by high biodiversity and fast growing human populations that threaten biodiversity through a number of environmental impacts. Deforestation, which results in loss of habitat for terrestrial species, is one of the most serious impacts in forested regions of the Tropics. Several early modelling efforts simulated growing population pressure and deforestation in simple biodiversity models which predicted mass extinction of tropical species might occur within a few decades (Lovejoy 1980, Ehrlich and Ehrlich 1981). These initial models were appropriate since knowledge about tropical extinctions was extremely limited. Although refinements in the early modelling efforts suggested reduced extinction rates or at least more caution in estimating tropical extinctions (Lugo 1988, Lugo et al. 1993, Simberloff 1986, Wright 1987, Kangas 1986, 1987, 1991, 1992), a belief developed in the general public that the tropical mass extinction event was real and currently underway. This belief is reflected in the literature and advertisements of publishers, businesses and conservation organizations that

indicate extremely high extinction rates. For example, one publisher states in an advertisement for a book on tropical forests that "in the next 15 minutes, a plant or animal species will become extinct". Another advertisement for conservation fund raising notes that "half the species on earth will die unless we act now." These statements are exaggerations and they are not based on the best scientific evidence. An issue of concern is how these exaggerations will affect conservation action. Several examples of political backlash to conservation from exaggerations have occurred in Brazil (Kangas in press) and more studies are needed on belief formation and scientific credibility in these kinds of political issues of conservation.

Possible Implications for Biodiversity Policy

Although extinction rates are much higher in the Tropics than in the United States, some similarities may exist (Schindler 1989). There is a continuing need for more information on the extinction process but public policy must be developed with the best existing information. In the United States the Endangered Species Act is the primary mechanism of biodiversity policy and similar governmental regulations exist in tropical countries. As these policy instruments evolve, it may be useful to build on experiences in conservation from the Tropics and from the United States. Three possible implications from the tropical experience are listed below.

- 1) Much is known about United States biodiversity and its loss due to human impact, compared to available information on the Tropics. United States policy makers are obliged to take advantage of this scientific knowledge to develop the most effective biodiversity policy possible. Extinction rates have not been exaggerated in the United States, as has happened in the Tropics, and policy makers should continue to insist on high levels of scientific input to the political process of policy formation.
- 2) The high diversity of tropical species may require that tropical countries move away from individual species as a focus of biodiversity policy, as is the case with the United States Endangered Species Act, to focus on larger scale units of biodiversity. Although it may be possible to focus on individual species in the United States, because of our greater knowledge and resources, perhaps new directions of conservation policy should be implemented that give strong consideration to the landscape level of biodiversity along with the species level.
- 3) Some of the scientific community has shifted away from the difficult problem of estimating tropical extinctions to consider ways of achieving sustainable development in the Tropics. This represents a change in approach to conservation from the polarity of "environment vs. economy", which has come to dominate United States biodiversity policy. An alternative is to search for innovative systems of man and nature in which biodiversity is

demonstrated to have high value. Perhaps this approach should be an explicit goal for future biodiversity policy formation in the United States.

In conclusion, the Endangered Species Act has many problems (Harris and Frederick 1991, Kohm 1991, Mann and Plummer 1995) but it remains as a solid foundation on which to build biodiversity policy. Its strengths can be capitalized on, along with new ideas from conservation biology, to develop effective and adaptive biodiversity policy for the future.

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Testimony on The Endangered Species Act

Terry L. Maple, Ph.D.

May 25, 1995



Testimony on the Endangered Species Act

Terry L. Maple, Ph.D. Professor of Psychology, Georgia Institute of Technology, and
Chief Executive Officer, Zoo Atlanta.

25 May, 1995

I am truly grateful for the opportunity to discuss the Endangered Species Act and the reasons that I support its reauthorization. For twenty years I have been a college professor, teaching courses in "Environmental Psychology," and "Animal Behavior". I have had the pleasure of teaching both undergraduate and graduate students at the University of the Pacific, the University of California at Davis, Emory University, and Georgia Tech. For the past eleven years I have been employed as the Chief Executive of Zoo Atlanta. While I have spent a fair amount of time as an "ivory tower theoretician," my recent experiences have required that I meet a payroll, balance a budget, plan strategically, set priorities, recruit and manage talent, market a product, and make hard business decisions daily. In my wildlife travels, I have enjoyed pristine wilderness, and I have suffered within the most degraded, dehumanized landscapes. The contrast is instructive. More than ever, we need to protect our world heritage of wildlife ecosystems. Zoos and Aquariums are institutions that represent the interests of wildlife and the millions of people worldwide who value and enjoy it.

I manage one of the world's leading zoos, an enterprise whose employees work every day to actively "share the joy and wonder of wildlife." Nearly a million people will visit Zoo Atlanta this year, while some 40,000 households are paid members in our local support group, the "Friends of Zoo Atlanta." Our nonprofit corporation is comprised of 115 full time staff, more than 1,000 trained volunteers, and 150 seasonal employees. Our 1995 operating budget exceeds \$9 million. Zoo Atlanta is a cultural institution in the business of managing, propagating, exhibiting, and conserving wildlife in zoos, parks, and reserves. We aim to educate, inspire, and provide

enjoyment and recreation for our visitors. We are essentially a business patronized by families.

Zoo Atlanta has been acknowledged as one of America's most successful public/private partnerships. The zoo receives no operating subsidies from local or regional governments, although \$16 million in bonds were provided by the City of Atlanta and Fulton County in 1985, and a capital gift of \$2.5 million was granted by the state in 1995. We are pro-business, and therefore a part of mainstream American life. A corporate fund-raising campaign raised nearly \$10 million this year. Privatization has worked well for many of America's best zoos and aquariums.

I offer this background to demonstrate that a corporate orientation is not incompatible with the protection of wildlife and wildlife ecosystems. Our visitors and our corporate donors consistently support our conservation programs and values. Indeed, it is a major reason for giving. They are partners in our continuing efforts to educate our community about the importance of biodiversity and the permanence of extinction. We work to ensure that our children and grandchildren will be able to witness eagles, whales, gorillas, elephants, treefrogs and other living creatures in a state of nature. We cannot be satisfied to preserve a few specimens in our zoos; we are obligated to protect healthy populations within their range countries. It would be a monumental tragedy if zoos and aquariums were to become the last refuge for endangered species, and we cannot let this happen. Zoo animals should be regarded as ambassadors for their wild kin. We are driven to save them for their own sake, but we do it also because our community demands it.

It has been argued recently that we can relax our standards of protection because many species now can be propagated in captive settings. Zoo and aquarium professionals are experts on captive propagation. It is a helpful strategy, but captive breeding is not a panacea for the protection of endangered species. It is certainly true that zoos have mightily contributed to saving the American bison, and the California Condor, to name a few, but many other species have proved far more difficult to breed in the zoo. Moreover, the 170 accredited zoos and aquariums in

America do not have sufficient space or financial resources to manage multitudes of endangered wildlife. The critical list is simply too long, and our technology is too primitive.

We also recognize that reintroduction of captive-bred wildlife has proved far more challenging than we expected, and it may be generations before habitat can be sufficiently rehabilitated to accept the offspring of "rescued wildlife." We should not make our stand in zoos; instead our first priority must be the preservation of wildlife ecosystems. No zoo can protect and nurture mountain gorillas as effectively as the *Parc des Volcans* in Rwanda. In this part of the world turmoil surrounds this national park, threatening its survival and the creatures within. But it is precisely within this vulnerable ecosystem that our commitment to protection must be confirmed. There are only 650 mountain gorillas left in the entire world. None of them reside in captivity. Although it cannot be our first conservation priority, we will continue to improve our technology, and do our best to breed rare species in our zoos and aquariums.

In operating zoos and aquariums in this country, we have learned that the public wants to live in a "natural world," a world abundant in a diversity of wildlife and the ecosystems that support it. We have learned this by studying our customers, the 120 million Americans who visit zoos and aquariums annually. It is the mission of zoos and aquariums to contribute to public education, conservation, science and recreation. As zoo and aquarium professionals we strongly agree with the preamble of the Endangered Species Act which recognizes that endangered wildlife and plants are of "esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people."

The esteemed conservation biologist E.O Wilson has classified our natural resources as "biological wealth." His words are compelling:

"Native species are a part of our heritage. They are venerable almost beyond imagining, present on this land thousands to millions of years before even the first native American arrived.

The average life span of a species, and its descendents before . . . humanity was one million to ten million years. Each species of animal, plant, and microorganism is a masterpiece, assembled by vast numbers of genetic mutations tested by natural selection and fitted to a particular niche in the environment. Its genes are a library of priceless genetic and ecological information, available to us at no greater price than the effort to keep the species alive."

As we contemplate reauthorization of the Endangered Species Act, it may be useful to consider the field experiences of Teddy Roosevelt, one of America's greatest conservatists. In his acclaimed biography Edmund Morris (1979) wrote:

"For the first time he realized the true plight of the native American quadrupeds, fleeing ever westward, in ever smaller numbers, from men like himself. . . by 1887 the ravages . . . were plain to see. . . Roosevelt was now in his twenty-ninth year, and the father of a small son; if only for young Ted's sake, he must do something to preserve the great game animals from extinction."

Fortunately, Roosevelt was a man of action. His legislative record at the state and national level is a monument to his lifelong commitment to conservation. Clearly, endangerment is not a new issue. In fact we have already lost an estimated 1.5 percent of the estimated 100,000 recognized species of American wildlife since the European colonization. Some 22 per cent are classified as "on the brink of extinction". There is no disagreement among the world's scientists that the pace of species extinction is accelerating.

The protection of wildlife is never easy, but I believe that we can develop "win/win" conservation strategies that will work for wildlife and for people. If we tinker with the Endangered Species Act we may be able to improve it, but we must be careful

not to render it ineffective at a time when the pressure on wildlife resources is greater than ever before. Responsible republicans and democrats have offered constructive criticism of the Act as it is currently constituted. We can build on this if we also consult our most trusted experts in wildlife biology and public policy. We should be careful not to underestimate the risks of ignoring environmental problems. As Rodger Schlickeisen (1995) recently observed:

"It is a rare politician who does not recognize and play to the public's need to believe that America's combination of abundant resources, technological ability, and entrepreneurial spirit can solve all environmental problems before they inflict serious penalties."

In the zoo world, we have studiously avoided "doomsday" educational themes, and we should continue our efforts to objectively represent the environmental challenges which surround us. Sadly, the debate on the Endangered Species Act has been characterized by acrimony and mistrust on both sides. Perhaps we need a new scientific agency to examine and evaluate environmental issues. A National Institute for the Environment, funded from both public and private sources, has been introduced in Congress. The idea is timely and worthy of careful consideration.

There is broad agreement that the Endangered Species Act must be based on sound science, and that it must be flexible. As Speaker Gingrich has suggested, the act will function better if it is incentive driven and not punitive. In the American Southeast, the Georgia Pacific Company has engaged in logging while protecting the habitat of endangered woodpeckers, demonstrating that industry and government can successfully negotiate policies that will work for wildlife and people. Surely we are capable of making the Endangered Species Act workable throughout the nation.

The Endangered Species Act has come to symbolize America's collective commitment to wildlife conservation. We must further recognize that our nation is widely regarded as a leader in global conservation. If our courage fails us, it will surely affect the morale of our conservation partners in the developing world. Like a

series of dominoes, wildlife protection could be toppled elsewhere. In a challenging world economy, our problems cannot be resolved at the expense of our treasured ecosystems. Indeed, if we do so, we are squandering biological wealth for transient, short term gains. The esteemed biochemist Thomas Eisner (1994) reminds us that "chemical prospecting" will continue to yield new medicines only if our sources are sustainable:

"What beclouds chemical prospecting these days is the fact that species are disappearing. Environmental destruction is proceeding worldwide at an ever-increasing rate, with the result that whole habitats, with much of their contained biotic wealth, are being obliterated. Species are being lost faster than they are being examined chemically".

In our "World Zoo Conservation Strategy," published by the World Zoo Organization in 1993, we have agreed that it is the task of zoos to heighten public and political awareness about the interdependence of life (cf. Maple, 1993). Our collections of living animals will be used hereafter to tell the whole conservation story. Zoos and aquariums are painfully aware of the fragile state of the earth's ecosystems. We have dedicated our institutions to protecting them.

Like all good investments, it is advisable to think about conservation in the long term. For too many years, we have ignored an expanding habitat deficit. We are expending too much, and saving too little. If we should bankrupt our natural resources, our heirs will never forgive us. Extinction, after all, is forever.

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**Statement of Nicholas Wheeler, Ph.D.
Senior Scientist, Taxol[®] Program
Weyerhaeuser Company**

**Submitted to the Record of
The U.S. House of Representatives
Natural Resources Committee
Endangered Species Act Task Force**

May 25, 1995

Introduction

Mr. Chairman and members of the task force, Weyerhaeuser Company appreciates the opportunity to provide comments on the Endangered Species Act (ESA) to the House Natural Resources Committee's Endangered Species Act Task Force, specifically about our experience in growing yews for Taxol[®] production.

I would like to begin my comments by providing a brief summary of our company. Weyerhaeuser is an international forest products company whose principal businesses are growing and harvesting trees, and manufacturing, distributing and selling forest products.

Weyerhaeuser owns and manages approximately 5.6 million acres of timberland in the United States (2.8 million acres in the Pacific Northwest and 2.8 million acres in the South).

We have been managing forestlands since 1900 and currently support the largest private silvicultural and environmental forestry research staff in the world.

Weyerhaeuser is committed to continuously improving our performance as responsible stewards of the environmental quality and economic value of the forests we manage.

While our forests are managed for the production of wood, our goal is to protect, maintain or enhance other important environmental values, such as plant genetic resources, soil productivity, water

quality, fish and wildlife habitat, and other unique areas and environmental values.

Weyerhaeuser and the ESA

On April 24th, Weyerhaeuser submitted testimony to this Task Force on the Endangered Species Act. We said that based on our years of research in wildlife and forestry, and our recent experiences with the Habitat Conservation Plan (HCP) process, we believe that the ESA can be improved to the benefit of both wildlife and landowners. Specific improvements include:

- Making the HCP process more user-friendly by providing certainty to landowners and reducing the time and cost necessary to complete documentation.
- Providing landowners the option of moving away from the current species-by-species HCP process to a habitat-based approach for multiple species.
- Streamlining the consultation process to eliminate unnecessary duplication.
- Clarify the responsibility of private landowners with respect to "take."

Our testimony today focuses on how we applied years of expertise derived from our forestry research to help solve a human health problem. Our efforts in studying and growing yew trees for Taxol production has reinforced our belief that private landowners be allowed the flexibility to apply a variety of management techniques.

Background

Taxol (paclitaxel) is considered by the National Cancer Institute (NCI) to be one of the most important anti-cancer drugs to be developed in the past 10-15 years. The molecule paclitaxel belongs

to a group of closely related chemicals called taxanes, extracted from the bark and other plant tissues of yew trees (*Taxus* species). Taxol, the drug formulation of paclitaxel, has been approved by the U.S. Food and Drug Administration (FDA) for the treatment of patients with advanced ovarian and metastatic breast cancers. Taxol is being evaluated for the treatment of many other cancer types and clinical results are promising for several, including lung, head and neck cancers.

Taxol was discovered in the early 1960's during the initial plant surveys conducted by the Natural Products Branch of the NCI. Of 35,000 plant extracts screened in that survey, Taxol is the only anti-cancer agent that subsequently came to market.

Due in part to the initial difficulty of obtaining, extracting and purifying paclitaxel, development of the drug was impeded for several years. Interest in development was rekindled in 1979 when it was discovered the compound had a unique mode of action in arresting cell division.

Clinical trials were initiated in 1983 and remain on-going today for a number of tumor types. The limited supply of paclitaxel adversely affected the speed at which clinical trials could proceed. The harvest of bark from the Pacific yew lagged behind expectations and needs during the early years of clinical evaluations.

In 1991, following a competitive bidding process, Bristol-Myers Squibb was awarded a Cooperative Research and Development Agreement (CRADA) from the NCI to further develop and bring Taxol to market. In late December, 1992, Taxol was approved by the U.S. FDA for treatment of patients with ovarian cancer whose first-line or subsequent chemotherapy had failed, and in early 1994 Taxol was approved for use in the treatment of metastatic breast cancer.

Prior to December, 1994, the bark of the Pacific yew, a forest tree species native to the U.S. Pacific Northwest and British Columbia, was the only approved source of Taxol for clinical trials or cancer therapy. Because of its limited occurrence and slow growth rates,

much concern was expressed over the environmental impacts associated with its harvest and as an adequate source for the long-term.

Harvesting requires stripping the bark from yew trees felled either for the specific purpose of Taxol production, or as a bi-product of large-scale harvests of the primary timber species, such as Douglas-fir, western hemlock and western red cedar. While the Pacific yew is not currently an endangered species, continued large-scale harvests of bark could conceivably reach the limits of the resource and have a negative impact on the environment. Consequently, one of the requirements of Bristol-Myers Squibb as stipulated in the CRADA was to identify and develop alternative sources of paclitaxel.

Several possible alternative sources, including foliage from other wild *Taxus* species, biomass from cultivated sources, semi-synthesis, cell culture and/or total synthesis have been identified and are receiving considerable attention. Of these, semi-synthesis and biomass from cultivated sources appear most promising as cost-effective alternatives. Semi-synthesis requires taxane precursors derived from *Taxus* plants, whether from cultivated or wild sources.

Even though several economic alternatives to the harvest of Pacific yew exist, it is anticipated by some that there will be a continuing demand for the bark of the Pacific yew by organizations seeking to market generic Taxol products.

Weyerhaeuser's Taxol Program and Goals

Of the supply alternatives cited above, Weyerhaeuser has focused its attention on nursery cultivation, one of the Weyerhaeuser's core businesses and areas of expertise. The goal of our Taxol program is to provide, through intensive cultivation of *Taxus* biomass, 1) a long term, reliable, economic supply of paclitaxel; and 2) other desired taxane precursors for semi-synthetic production of Taxol.

Weyerhaeuser's Taxol Program began in 1987 when it was contacted by NCI's Natural Products Branch as a prospective contractor to supply Pacific yew bark. Although we own and manage 2.8 million acres of private timberland in the Pacific Northwest, Weyerhaeuser has a relatively few Pacific yew trees on this land.

Recognizing the limited availability of yews throughout the region, and the potential negative impact of long-term harvest on the species, Weyerhaeuser proposed intensive cultivation as a supply alternative. It was our belief that cultivation of yews in a forest nursery setting would provide for a more reliable, long-term and environmentally sound solution to the supply issue.

To achieve this, Weyerhaeuser established a Pacific yew population / genetics study in 1987-88. This was followed by the establishment of an aggressive research and production program. This program was supported by early research results from the genetics study, from our extensive experience within the company in tree improvement, plant physiology and propagation research, and from our large-scale forest tree nursery operations. Our experience in these areas has allowed us to rapidly develop a comprehensive cultivation program for the production of yew trees for Taxol

Since 1991, Weyerhaeuser has had an exclusive *Taxus* biomass supply relationship with Bristol-Myers Squibb. However, recent changes in that relationship retains Bristol-Myers Squibb as a customer and allows Weyerhaeuser to grow taxane-containing biomass for other customers. These developing changes provide both Weyerhaeuser and Bristol-Myers Squibb new opportunities in improving their strategic directions.

Weyerhaeuser's program is focused on both research and production activities:

1. Research Activities

- identify the best genetic material (species or varieties) to use in a domestic cultivation system

- determine paclitaxel (taxane) content as a function of the various plant tissues for different varieties (bark, needles, etc.)
- determine the effects of harvest time and cultural practices on yield
- assist in developing extraction technologies for various plant tissues
- establish long-term genetic improvement efforts

2. Production Activities

- determine how to grow different genetic sources of yew quickly
- determine the best propagation practices (i.e., vegetative, seedling, etc.)
- evaluate various cultivation alternatives (nurseries, hedges, plantations, etc.)
- determine the economics of domestic cultivation

Following the success of this program, Weyerhaeuser looks forward to additional opportunities where our technology and resource base can be applied in the production of other medicinal, pharmaceutical or other natural-product derived compounds or products.

Summary

Since the start of our yew-Taxol program, Weyerhaeuser has grown more than 12 million yew trees at five forest tree nurseries in the Pacific Northwest.

In the search for alternative sources of Taxol, we believe that intensive cultivation of selected *Taxus* genotypes offers the best long-term solution. We believe that with the strong integration of research and production, and based on the positive results experienced to date, Weyerhaeuser can achieve its goals of 1) providing a long-term reliable and economic source of paclitaxel, or other taxanes of choice, 2) contributing significantly to the expected increasing demands for Taxol throughout the decade and beyond, and 3) contributing to the conservation of world-wide

natural *Taxus* populations through the use of a renewable, sustainable, cultivated *Taxus* resource, managed under strict operational controls.

Weyerhaeuser's success with cultivating yew and developing alternative ways to produce raw material for Taxol is but one example of how landowners can respond to society's needs. We have been able to lend our considerable expertise gained from decades of research and management of our private forestlands to this important effort. For the same reasons, the company has been able to develop and implement solutions to concerns over wildlife habitat. And the key to being able to apply these types of solutions has been the ability to be flexible in our management of private forestlands and to be responsive to changes in markets and external conditions.

TESTIMONY BEFORE THE NATURAL RESOURCES COMMITTEE OF
THE U. S. HOUSE OF REPRESENTATIVES

Thursday, May 25, 1995

Dr. David G. Cameron
2004 Centennial Drive
Great Falls, MT 59404

(406) 453-5378

SUBJECT: Written submission by Dr. David Cameron to accompany oral testimony at the hearing of the Natural Resources Committee of the U. S. House of Representatives to be held Thursday, May 25, 1995.

COMMITTEE MEMBERS AND VISITORS:

I speak today wearing two hats. I am a recently retired professor of biology and genetics at Montana State University with degrees from Princeton and Stanford Universities. I hold a lifelong interest in wildlife genetics and the hereditary consequences of adaptation and speciation. I am also a third generation Montana livestockman having managed for twenty years a large family cattle and sheep operation. These two hats, that of the theoretical/idealistic biologist and the market-driven rancher have made me slightly suspect wherever I go.

As a professional biologist, I, along with my students and colleagues, have published studies on populations of diverse taxa in natural habitats in the West---usually at the request of Federal or State agencies. Often their concern has been what their obligations were under the mandates of the Endangered Species Act. We tried to provide a scientific basis for their decision making.

My main purpose in coming here is not to dwell on the scientific problems of the ESA, but to relate my own frustrating experience with the Act as a rancher attempting to perform what would normally be considered a good deed. The tradition in my family has been to give wildlife a break wherever possible. My father reintroduced pronghorn antelope to our region four decades

ago, and our region is renown for its herds of elk and deer, its mountain lions, coyotes, bears and soon, God help us, wolves. Few complain.

HOW THE CURRENT ESA INTERFERES WITH GOOD DEEDS:

Hoping to continue in the family tradition of ecological reconstructive activity, I implored upon my colleague, Dr. Calvin Kaya, a fish biologist with special interest in the Montana grayling, to examine the tributaries of our trout stream for sites suitable for the reintroduction of grayling--a native species which for some reason has disappeared from much of its former habitat, including our ranch. A suitable site was found, and plans were made to do what was deemed necessary. Volunteer help was available, and we were about to proceed when word arrived that the Federal Wildlife Service was seriously considering listing the Montana grayling as an endangered species. At this point people knowledgeable about the heavy-handed approach of the Feds counseled me to forget the experiment. We might lose the right to graze our pastures. My recollections of the horror stories abundant in stockmen's journals about the hazards of hosting an endangered species didn't help, and I sadly bowed out. It seemed a good deed would probably be punished, and life had sufficient complications without Federal Agents giving orders.

How many times has my story been repeated? How often has the ESA impeded biological restoration? I think more often than we want to believe. Reasonable property owners are frightened and angry at you, the government, for managing with brick bats.

Why does the hosting of a rare and troubled creature have to be a threat to their livelihood rather than a source of pride and pleasure? IT DOESN'T. It is clearly unfair to make a few individuals both the scapegoats and the bearers of stress because of forces beyond their control and perpetrated by society at large. We must form partnerships between groups who now fight for CONTROL rather than results.

Habitats vary continuously through space and time. Their management is a constant challenge to those, the local private and public managers, who know them best.

WHAT CAN WE DO?

1. We must seek ways to enlist this local knowledge and form the management groups necessary to find common ground and innovative solutions. The next ESA must be an ENABLING act opening doors of opportunity and marshaling latent goodwill that was stifled by the preceding act. The more local the solution, the more likely it will work--you must believe that!

2. We cannot save every variety of every living thing. You must allow the exercise of triage and spend money effectively. Lavish expenditures on dubious acts turns off otherwise sympathetic citizens.

3. We must put money into carrots not sticks. People respond to incentives. For instance, ill-conceived tax structures drive rational people to do socially undesirable acts.

4. You must convincingly remove from the new Act the perception that there is an agenda beyond maintaining a healthful

environment. The apparent joy with which Federal Agents have intruded into private lives of ranchers suggests to many a political not a biological agenda.

5. PRACTICE WHAT YOU PREACH: One thing you can do is to start managing your own showplaces in an appropriate way. Yellowstone Park is a grazing disaster zone recognized as such by professional range managers and ranchers. Biological diversity seems to have a very low priority in the Department of Interior as historical photos reveal the loss of willows, aspen, cottonwoods, beaver, and associated biota due to elk and bison having been allowed to ravage the park while cultivating Brucellosis. A good example of ecosystem management is demonstrated in South Africa's Kruger Park, and if applied in Yellowstone, would go a long way in selling a conservation program to the West.

As a professional biologist, I am alarmed that political correctness has superseded science in advice and council going to the Hill. When the governing board of the Society of Conservation Biology recommended to Interior that Conservation Reserve Lands (CRP) should never be grazed, I realized the depths of biowhoring taking place. A recommendation of a single management plan for over 10 million acres of land is flawed--whatever it may be.

I wish the Committee success in its deliberations and offer you any help I can give. Thank you for your attention.

SAVING ENDANGERED SPECIES WITH HIGH-YIELD FARMS AND FORESTS

by Dennis T. Avery
Hudson Institute

Testimony before the Endangered Species Task Force of the U.S. House
Committee on Resources, Washington, D.C., May 25, 1995.

Thank you for the opportunity to highlight the importance of using high-yield agriculture, high-yield forestry and freer trade in natural resource products to save endangered species by the thousands, in the U.S. and around the world.

My name is Dennis T. Avery. I am a senior fellow and Director of Global Food Issues for the Hudson Institute of Indianapolis. Prior to joining Hudson, I spent nine years as the senior agricultural analyst in the U.S. Department of State. In that career position, I was responsible for assessing the foreign policy implications of food, agriculture and natural resource policies worldwide. I have also served as a policy analyst for the U.S. Department of Agriculture and for the National Advisory Commission on Food and Fiber.

I have written two books on global food and agriculture:

-- *Global Food Progress*, published in 1991, is an overview of the research, technologies and government policies which have enabled us to feed twice as many people since 1951, feed them better diets, and do it from essentially the same amount of land.

-- *Saving the Planet With Pesticides and Plastic: The Environmental Triumph of High-Yield Farming*, has just been published, and I have furnished copies to the committee members. It details the contributions which high-yield farming and forestry have made and should make in preserving millions of square miles of wildlife habitat, preserving the species living on that habitat, saving billions of tons of soil from erosion, and protecting billions of gallons of water -- all while *reducing* human health risks. The book also focuses on the danger of trapping even more of our natural resources in the deadly tragedy of "commons ownership."

This global resource overview is offered in the spirit of the environmental slogan to "think globally and act locally." I hope it will make a constructive contribution to carrying out the committee's vital tasks.

Let me first say that this country and the world owe a major debt of gratitude to the environmental movement which has so sharply increased our sensitivity to the natural world and the need to preserve our natural resources. I share their goal of preserving the world's wildlife and wildlands. I share their hope that we now have the knowledge and the will to preserve all of the wildlife species on the planet, even as the world's human population continues to increase and become more affluent.

However, I bring a warning to this committee and to the environmental movement. We cannot save the world's endangered wild species without high-yield farming. Nor without high-yield forestry. Nor without liberalized opportunities to exchange the products of these natural resources more freely among regions and countries, so that we can use the world's best-suited land and best production systems to minimize food and forestry's land requirements. That is the only way we will continue to have habitat for the wildlife.

We must also recognize that the United States bears a special responsibility in these areas both because of our unique endowment with land and climate, and because of our world leadership in research and technology. The world can probably not save a high proportion of its wildlife habitat without America playing a fully supportive role in that effort.

We must face the fact that the world's human population will nearly double before it restabilizes. We must produce food for these people; otherwise, they will hunt down virtually every wild creature for the stewpot, and then plow down the wildlands for low-yielding crops. We cannot hire enough game wardens to save the wildlife if the people are truly hungry.

In addition, that larger world population is rapidly and broadly gaining affluence. Higher incomes mean smaller families, and thus affluence is good for the environment -- but it also means farmers must supply more resource-costly foods such as meat, milk and eggs. It means more demand for cotton clothing in the tropics. We must be able to produce three times as much food and fiber from our farms by 2050. At the same times, we must also radically increase our output of forest products. And we must do all of this without sacrificing wildlife.

If we cannot achieve food and forest product increases through higher yields and freer trade, then the demand for these products will be satisfied by invading wildlands. Most of the wildlands invaded will be in the tropics, with their dense biodiversity.

Fortunately, we have developed the knowledge base to avoid such losses. The U.S.-led efforts to develop such technologies as plant breeding, chemical fertilizers, pesticides and irrigation are becoming even more critically important. Moreover, our traditional research efforts are now being amplified by biotechnology. Because of biotechnology, we can look forward soon to rice that resists the tungro virus and thus has higher yields. We will have such new developments as corn and cotton that carry their own built-in natural pesticide, also delivering higher yields. Genetically-engineered pork growth hormone will give us hogs with half as much fat, produced from 25 percent less feed grain -- and better feed

conversion. Cloning the best trees can give us forest plantations with ten or 20 times the yield of a natural forest. Trade can often increase the efficiency of our natural resource use by three fold or more.

However, our policy framework is failing to support the high-yield approach

-- The Federal regulatory process too often seems dedicated to the "ideal" of low-yield organic agriculture. The certainty of massive wildlife habitat losses is ignored while we "protect" the public from unproven and unlikely health "risks."

-- The Federal farm programs divert urgently-needed and capable cropland from production in America, which triggers the plow-down of land in other countries with far less productive capability and far more species diversity.

-- Too much of our agricultural research momentum is being diverted into so-called "sustainable" farming systems that are unlikely to produce enough yield to protect the existing wildlife habitat from invasion.

-- Our forestry efforts seem determined to ignore the world's growing demand for forest products, and the fact that America has more than its share of fast-growing trees. These trees are not antique rocking chairs which can be urethaned and put beside our fireplaces as trophies. They are living organisms which will either be harvested or die.

-- Locking up fast-growing forests in the Pacific Northwest for the spotted owl will do nothing to lower the world's demand for forest products; it merely shifts the focus of that demand to species-rich tropical forests or slow-growing Siberian trees that may not be replanted.

-- Too much of Americans' concern about biodiversity is poured into "saving" sub-species and populations of non-threatened species in America, while the impacts of our farm and forestry policies on habitat and species destruction overseas is ignored.

-- With the best environmental intentions, we have attempted to impose command-and-control environmental regulation on agriculture, the most diverse, site-specific and decentralized industry of all. As an excuse for this regulation, we have blackened the environmental reputation of farmers, the very people who pioneered conservation and on whom we must finally and inevitably depend for the preservation of many species. In some cases, conservation incentives have become so perverse that people have been thrown in jail for *creating* wildlife habitat. Landowners have lost the use of their lands because they *attracted* wildlife. Forest owners are now cutting trees quickly, before they attract endangered species and lose the right to cut timber at all.

Mankind is at the most critical moment in environmental history. What we do as people and societies in the next two decades will determine whether we bequeath a more populous but sustainable world to future generations -- or bring on the very apocalypse of

famine and wildlife destruction that Greenpeace and Earth First! have publicly predicted. America's policies need to lead the way.

The most critical environmental decision we will make is how and where we grow our food. Because of America's size and leadership position, our food and forestry decisions will have a huge impact on how humanity uses two-thirds of the earth's land surface -- and thus the availability of habitat for the world's wild species.

The stakes are huge. I estimate that high-yield farming is already preserving 10 million square miles of wildlife habitat from being plowed down for food. That's equal to the land area of North America. By the year 2050, the difference could well be 20 million square miles of wildlands.

So far, we are making the wrong decisions, for the wrong reasons, based on the wrong information. On agriculture, forestry and wildlife, we are too often "Thinking locally and acting illogically."

Unless we take a new approach to conservation, keyed to 1) encouraging high yield crops and forests, 2) environmental incentives for private resource owners, and 3) freer trade in natural resource products, the world will lose huge tracts of wildlife habitat which should not be lost. Unless the United States takes the leadership in this change of strategy, it is not likely to happen. Unless America uses its own cropland and forestland more effectively, we may be directly responsible for the destruction of wildlife species by the thousands. Some of these will be in our own country, but by far the majority would be lost from the tropical forests that would be cut and plowed to compensate for the frivolous waste of key American natural resources.

It is not America's Endangered Species Act which is truly protecting the wild genes in the rain forests, and preserving our opportunities to find cures for childhood leukemia and other natural medicines. The world's wild genes have actually been preserved by the Green Revolution and high-yield pulp plantations that have prevented the need for expansion of crops into the tropical forests.

Thanks to high-yield farming, the First World has farmed less land. Cropland is being diverted rather than cleared.

In Chile, where crop yields have been rising, no forests have been cleared for food. In nearby Ecuador, where the crop yields are stagnant and there is no money for food imports, they are expanding the cropland at 2 percent per year -- by clearing the forests. The damage to the gene pool from cropland expansion in that one Latin American country dwarfs anything that could possibly happen under the ESA.

The clearing of tropical forests in countries such as Brazil and Indonesia has been happening because of food shortages, but because the stagnant and graft-ridden economies in those countries have not generated enough off-farm jobs. Someday I hope

to hear environmental groups criticize Third World governments for saddling their people with too many government jobs and too little opportunity.

Only in Africa, where high-yield farming is not yet being used, has the world lost large amounts of wildlands and wild genes in recent years. The African problems have included statist policies, government subsidies to urban consumers and too little investment in agriculture and forestry research.

THERE IS NO UPWARD POPULATION SPIRAL

Recent dramatic reductions in world birth rates are beginning to ease our irrational fear that the human population would simply keep growing itself to death. There has never been an affluent country with a continuing high birth rate, and the GATT is now helping virtually the whole Third World to gain affluence. As a result, its population growth rate is declining radically. Births per woman have fallen from about 6.5 in the 1960s to about 3.2 today; since stability is 2.1 births per woman, the Third World has already come three-fourths of the way to stability. The First World is already at about 1.7 births per woman, implying an long-term decline in world population after a peak of 8-9 billion people about 2040.

(It is important to note that the countries which have brought down their birth rates the most have also made the most progress in raising their yields of crops.)

This means American international policy concerns are probably now too heavily weighted toward population "management" and give too little support for resource preservation strategies.

HABITAT IS THE KEY

The earth's cities currently occupy only about 1.4 percent of the planet's land surface. By the year 2050, if we have as many as 10 billion people, the vast majority will live in cities that will occupy less than 4 percent of the land. If these people treat their sewage and invest in clean energy, what threat do they represent to wildlife? Not much -- unless it takes too much land to grow their food and forest products.

High yields, however, have proven they can take the environmental sting out of population growth and affluence. We are already feeding twice as many people today as we fed in 1950. We're feeding them better diets, with lots more high-quality protein. Yet the world is still cropping virtually the same 5.8 million square miles of land that it used for crops 45 years ago.

If the world's farmers today got the yields they achieved in 1950, the world would need nearly three times as much cropland to produce today's food supply. A total of 15-16 million square miles is a reasonable estimate, given the poorer soils and steeper slopes that

would have to be farmed. That would mean the biggest loss of wildlife since the Age of the Dinosaurs ended.

Forestry expert Roger Sedjo of Resources for the Future estimates that high-yield tree plantations could produce the forest products for 10 billion affluent people from less than 5 percent of the earth's current forest area. That would free the rest of the world's forests from logging pressures, though we would still need to make forest management choices (between logging and managed fire) to prevent big forest fires.

We must also give greater consideration than the U.S. environmental movement has yet conceded to the global forest impact of *not harvesting* America's fast-growing trees.

Naturalists who fear losing wildlife species are worried first and foremost about losing habitat. Without the higher yields, we might indeed lose millions of wild species over the next 50 years. With continued investments in the technology of high-yield farming and forestry, we might not have to lose *any*.

THE WORLD'S BEST LAND HAS THE FEWEST WILD SPECIES

One of the most important factors in saving species is the convenient fact that the land most important to humans is the land least important to wildlife biodiversity. The best lands tend to support large and vigorous populations of a few species. It is the poorest lands -- such as the tropical forests and the vertically-challenging mountains -- which harbor the richest genetic reservoirs.

The huge, rich croplands of central North America probably never harbored more than a few thousand species of flora and fauna. We can apparently find that many species in a few square miles of tropical rain forest. Even within a tropical forest, the best soil types are likely to have only one-tenth the number of tree species per acre as the poor soil types.

The number of wild species per square mile is very low in terrible soils (such as the white sand deserts and acid-soil savannahs). Species diversity is at its peak on the *almost-terrible soils* such as rain forests, mountain slopes, swamps, and other lands that farmers avoid. By the time we get to lands capable of high crop yields, the species diversity is quite low.

Dr. Michael Huston, the well-known ecologist from the Oak Ridge National Research Laboratory says that the world's wildlife diversity is strongly tied to soil resources -- and that North America bears a special responsibility for defending the world's wildlife species because of its rich soil endowments.¹

Dr. Huston emphasizes that the world's soil map shows relatively few areas with broad expanses of high-quality soils (appropriately moderate acidity, high cation exchange rates

¹ Dr. Michael Huston, "The Environmental Need for Free Farm Trade," presented to the Hudson Institute 1995 Farm Policy Conference, Washington, D.C., Feb. 7, 1995.

temperate climates and adequate rainfall). The Sahara Desert and the deserts of Central Asia have some good soils, but no moisture.

The tropical regions, which harbor so many species, are *inherently poor* for crop production. High temperatures burn up organic matter quickly from the soils. Heavy rains leach out plant nutrients and wash away vulnerable soils.

The key food production regions, based on inherent soil quality and low species diversity are North America, the Ukraine and parts of Asia, especially China. Argentina has the same advantages in the southern Hemisphere, but its land area is far smaller.

ENDANGERING SPECIES WITH FARM CHEMICALS?

To my knowledge, the only wild species we have so far sacrificed to high-yield farming was the passenger pigeon. As the rich hardwood forests of Indiana and Ohio were cleared for crops in the 19th century, the passenger pigeon's habitat and food supply disappeared. (However, it was market hunters who finished off the remnants of the passenger pigeon population; otherwise we might still have some of them to observe and enjoy.)

Naturalists are not very fearful of farm chemicals. So far, farm chemicals have not even been able to cause the extinction of such pest species as the boll weevil and the malaria mosquito, where we were trying.

Too many conservationists have taken fears as fact.

-- Many readers of Rachel Carson's *Silent Spring* still believe that DDT killed robins. In fact, tests show that robins can tolerate huge doses of DDT (10,000 parts per million) with no ill effects. They simply excrete it. (In those days, we treated seed with mercury to prevent fungal attacks; Ms. Carson's robin kills were probably due to eating mercury-treated seeds.)

-- In 1975, Cornell University reported on a test in which DDT, PCBs and mercury were fed to birds. DDT had no effect. PCBs sharply cut the hatching rate of the eggs. Mercury not only cut the hatchability of the eggs, but it *weakened the eggshells*.² It was almost certainly the PCBs and mercury which threatened the raptor birds, and it was almost certainly the Clean Water Act of 1972 which saved them. The environmental movement still deserves the credit for saving birds, of course.

-- One of the famous studies that "proved" DDT lowered the reproduction rate of mallard ducks had more variability among the control groups than between the controls and the

² Scott, et al, "Effects of PCBs, DDT and Mercury Compounds Upon Egg Production, Hatchability and Shell Quality in Chickens and Japanese Quail," *Poultry Science*, Vol. 54, 1975, pp. 350-368.

test group! In fact, the data seem to "prove" that moderate doses of DDT *increased* the number of live ducklings per hen.³

-- Another study "proved" that DDT weakened eggshells, but the calcium in the birds' diets was deliberately held below the levels needed for eggshell formation.⁴

I don't raise the questions about DDT because I want to bring DDT back. Today we don't use or need DDT or the other persistent pesticides in America. (Africa's malaria problem is another question.) We use compounds that target pests more narrowly, need far less volume, break down more quickly and are thoroughly tested to ensure both human and wildlife safety. But the banning of DDT is still waved as the reason why we should hate and fear all pesticides.

Too often we have compromised good science. Too often, we have let political expedience get in the way of good long-term public policy. DDT is a case in point.

Thirty years after *Silent Spring*, we know that high-yield farming -- pesticides and all -- is the most sustainable and sustaining system of farming devised in 10,000 years. This is due to both its low land requirements and its low soil erosion per ton of food produced. So far as medical science can tell, farm chemicals represent near-zero risks to people and wildlife, while delivering huge wildlife preservation benefits and huge reductions in our cancer and heart disease risks.

Until and unless we can *prove* some of the negative impacts that have so far only been *claimed* against farm chemicals, environmentalists should be cheering effective pesticides. And that means *proven to the point of peer-reviewed scientific consensus*. It does not mean a quasi-scientific paper cheered on by a clique of close colleagues and published under a scary headline.

My home state of Virginia recently banned a soil insecticide called Furadan 15G, which it regarded as the worst farm chemical threat to the state's wildlife. This granular soil insecticide had caused "hundreds" of documented bird deaths over a period of years when birds mistook the granules for seed or gravel. Fortunately we had alternative pest controls, and we could give up Furadan without major yield loss. But if we had to ban all pesticides, and accept a 50 percent cut in yields, Virginia might have to plow another 2 million acres of wildlands to make up the production loss. How many birds live in 2 million acres of Virginia wildlands?

We can't prove zero wildlife risk from farm chemicals. All we can prove is near-zero and declining risks, offset by huge gains in habitat preserved.

³ Heath, Spann and Kreitzer, 1969, "Marked DDE Impairment of Mallard Reproduction in Controlled Studies," *Nature*, 224, pp. 47-48. (DDE is a metabolite of DDT which presumably might be found in the mallards' diets.)

⁴ Bitman, Harris and Fries, "DDT Induces a Decrease in Eggshell Calcium," *Nature*, 224, pp. 44-46. Cited in Claus and Bolander, *Ecological Sanity*, McKay Co., New York, 1977.

The EPA's current crude effort to suppress farm chemical use should be tempered with a far stronger appreciation of the wildlife benefits generated by higher crop and forest yields. This isn't a matter of dollars. Nor is it a matter of protecting human health; the use of pesticides clearly *cuts* human health risks from cancer, heart disease and natural toxins.⁵

ORGANIC FARMING CAN'T SAVE THE WILDLIFE

The bitter truth for conservationists is that low-yield farming can't save the people or the wildlife. Organic yields are only about half as high as the yields from America's good, mainstream farms.

Worse, the world has only perhaps 20 percent of the organic nitrogen needed to support current world food production -- let alone tripling output for the future. The nitrogen problem is huge. If all the urban sewage sludge in America were dedicated to our crop field (heavy metals and transport costs notwithstanding) it would make up for only 2 percent of the chemical nitrogen fertilizer we currently apply.

The only practicable way for the world to get huge increases in organ nitrogen would be to grow millions of square miles of additional legume crops -- sacrificing wildfire for clover and alfalfa.

STOPPING SOIL EROSION

When we double the yields on the best and safest land, we slash soil erosion per ton of food in half. That's because we open only half as much land to wind and water. If high yields also eliminate the need to push crops onto a steep or fragile acres, then we cut soil erosion by more than half.

Now, chemical weed killers are letting us stop soil erosion virtually in its tracks. Having already cut soil erosion per ton of food by two-thirds with high yields, American farmers are now using conservation tillage and no-till farming to cut erosion another 65-98 percent, on 100 million acres of our most erosion-prone croplands. The herbicides let us control the weeds without the moldboard plow, the steel cultivator shank and other "bare-earth" farming systems.

PROTECTING GROUNDWATER

⁵ Pesticides help prevent the infestation of field crops with dangerous natural toxins, both during production and storage. In addition, they make possible the low-cost attractive fruits and vegetables which are mankind's strongest protection against both cancer and heart disease. We have more than 100 epidemiological studies which show eating five fruits and vegetables per day cuts cancer rates radically; we have no studies which show that the consumption of organically-grown fruits and vegetables cuts cancer rates more effectively.

There is additional good news about high-yield farming and groundwater. Data from the Management Evaluation Systems Areas is telling us that modern high-yield farming poses little threat to groundwater.⁶

MESA is telling us that less than 1 percent of the herbicides applied to the soil end up in our groundwater. No health threats have been linked to the traces of pesticide which have been found in our wells. In fact, EPA has recently raised the safety rating (the reference dose) by seven-fold on atrazine, the most widely-found pesticide in groundwater. Apparently, the only Americans who are consuming pesticide traces above the Acceptable Daily Intake in their groundwater are drinking from surface springs and shallow, hand-dug wells.

Nor is nitrate in our groundwater a significant threat to humans. The only nitrate-related threat to humans ever documented is blue-baby or cyanosis. America has had only one blue-baby death in the last dozen years, and that was due to a fertilizer spill near a farmstead well.

Nitrate from agriculture does still represent a problem in surface waters, for marine ecosystems. However, if we make full use of the newest and most cost-effective farming systems, we should be able to eliminate virtually all farm-related threat to groundwater supplies, and sharply reduce farming's impact on surface waters as well.

These new nature-friendly farming techniques include:

-- Low-till farming systems (both conservation tillage and no-till) which cut surface water runoff from farmland by more than 90 percent. Reducing the surface water runoff not only cuts soil erosion but eliminates most of the off-field transportation of chemicals.

-- Site-specific farm management, which uses Global Positioning Satellites, intensive soil mapping and sampling, and tractor-mounted microprocessors. This permits the farmer to vary the application of seed, fertilizer and pesticides yard-by-yard across the field according to soil type, plant population, slope, hydrology, nearness to waterways and any other important factor. There is no need to put on more inputs than the crop will need, nor any less.

-- Nutrient management plans that keep livestock and poultry wastes stored safely until the optimum moment for application, knifing-in of the manures to prevent runoff, and timing of manure application during the growing season for quick uptake. Such technologies make maximum use of the plant nutrients in the manure *in the fields* rather than permitting them to escape into surface waters. As a result, my Shenandoah Valley

⁶ MESA is a joint effort of the U.S. Department of Agriculture, the U.S. Geological Survey, the Environmental Protection Agency, and state agricultural experiment stations and the Federal-State Cooperative Extension Service.

makes less than half as much contribution to nutrient loading in the Chesapeake Bay as one sewage treatment plant near Washington, D.C.⁷

CONSERVING WITH COWS

Cows are not environmental villains. They enable us to use the world's grasslands to convert biomass humans can't digest into high-quality healthful protein. The grasslands need to be grazed, or else huge wildfires would turn them into instant carbon dioxide.

If the grass is going to be grazed, it makes little sense to feed all of the ruminant protein to wolves and lions in a world that keeps threatening to clear tropical forest for meat production.

(With more and more high-yielding pasture grasses being developed, there should be no need to clear forest for pasture. The Amazon was being burned to create pasture because of a Brazilian government subsidy, not a beef shortage.)

Overall, the grasslands help to meet human food requirements with little loss of biodiversity and very little soil erosion.

THE ENVIRONMENTAL NEED FOR TRADE IN NATURAL RESOURCE PRODUCTS

If we must triple the world's output of farm and forest products without destroying wildlife habitat, we will need to use the world's best-suited land as productively and efficiently as possible. Unfortunately, the lands are poorly distributed to meet food and forest requirements from local production.

The recent calls from some environmentalists for "resource self-sufficiency" is a misguided effort to ease natural resource constraints, or perhaps even to suppress population growth.

The real key to resource sustainability is to grow the crops and the trees where they grow best, and exchange food and forest products for other needed goods and services. Such a trade strategy would permit the huge tracts of prime cropland in America and Argentina to meet the gigantic food gap emerging in Asia. Millions of tons of American corn, wheat, cotton and meat should be exported to the densely-populated countries of Asia.

Indonesia is already attempting to clear 1.5 million acres of tropical forest to grow low-yielding soybeans to feed its broiler chickens. India is stealing crop biomass from its fields to get an additional 2 million tons per year of dairy products, and never mind the soil erosion which will result in the future. China is building a huge dam for power and irrigation that will displace 1.2 million people from the Yangtze Valley. No less than 56

⁷ Dr. Rick Halpern, "Where Have All the Nutrients Gone? Intensive Livestock Farming and Surface Water Quality," 1995 Hudson Institute Farm Policy Conference, Washington, D.C. Feb. 7, 1995.

dams are being planned for the Mekong River Delta in Southeast Asia, which will destroy the migratory patterns of the freshwater fish.

Must we watch the Bengal tiger and the Indian barking deer be sacrificed to national pride in "food self-sufficiency"? Must we watch species-rich tropical forests be sacrificed because America refuses to harvest second-growth Douglas fir?

The world indeed needs an "environmental round" of the General Agreement on Tariffs and Trade. Such a round should have as its highest priority a mandate to liberalize trade in farm and forest products. Farm product trade, in particular, is constrained far more severely than trade in nonfarm products. Currently, the farm trade barriers are having the perverse effect of forcing the expansion in world's food production to be made from low-yielding acres in densely-populated countries; too often the food increases are actually the result of environmental sacrifice. Meanwhile, North America spends government money to divert 40-50 million acres of good cropland; Western Europe is beginning to waste good cropland on the same pattern; and Argentina is pasturing cattle on 75 million acres of the rich Pampas.

Nor is any attempt being made to rationalize the world's forest product needs among safe, fast-growing wild and plantation forests. Yet this is obviously what needs to be done in order to harvest the fewest and safest acres; to save the fragile and slow-growing forests and the critical habitats with high biodiversity. We dare not sacrifice the world's overall preservation patterns to national near-sightedness.

ENDING THE TRAGEDIES OF THE COMMONS

Another global pattern is relevant here to both our national and international policies -- the "tragedy of the commons."

Iceland learned about the tragedy of the commons in the 12th century, when the eider ducks and other sea birds were declining because too many people took too many of the eggs. Iceland solved the problem by declaring that the eggs were the property of the person on whose land they were laid. The sea bird populations immediately began to recover, because every landowner wanted lots of birds nesting in their property.

We see the same problem -- and solution -- today in Africa's elephant population. The elephants which do not effectively belong to anyone are being killed. They are being killed because their hides and tusks are valuable, but also because they trample crops, houses and tribespeople. In East Africa, the elephants' very survival is threatened, even though the governments have put the elephants under their "protection" in national parks and armed their game wardens with assault rifles.

In southern Africa, however, the elephants are thriving. The difference is that in the southern countries, the governments have made the local villagers partners in the "elephant business." The local residents share in the revenues from hunting and photo

safaris, and from the meat and hides. Here, is it poachers who are in danger, and not elephants.

This is not simply a parable for Third World governments. It is a key lesson in natural resource management. The more incentive that local resource managers have to preserve wildlife, the more wildlife will be preserved. The more heavily we depend on police powers to protect widely-scattered resources, the more of them we will lose.

The environmental movement has come close to completely alienating the agricultural and forestry communities, when they should have embraced them as critically-important allies. Farmers and ranchers now fear the Sierra Club and the Fish and Wildlife Service. They are looking for ways to avoid involvement instead of ways to protect nature. Regulatory approaches which may have worked tolerably well in monitoring big chemical plants are useless in getting farmers and ranchers to look after little wild organisms in remote locations.

I have a book in which a nutritionist living in New York City demands that farms be put where she and her fellow urban consumers can conveniently look over the fences and make sure that their food is being produced with appropriate environmental sensitivity. To anyone who knows food production this is obvious nonsense; it would either force the depopulation of our cities or create horribly expensive roof gardens on the upper levels of New York's parking garages.

Too many people are nearly as unrealistic about saving wildlife out in the wild. They don't want to trust the people on the ground to conserve. But in reality, there is no choice.

Conservationists *must* have the positive cooperation of rural resource managers. The "ownership" of those resources must be as clear as possible, and the incentives to conserve and preserve must be clear and positive.

There is no way that real and lasting conservation can be accomplished by governmental "seizure" of private lands, by dictating fencelines from Washington, by depriving small landholders of the use of their property. Such a police-state approach may give some environmentalists and/or government officials a temporary feeling of power but the conservation results on the ground will be horribly disappointing in the long term.

Fortunately, it is not that difficult to get the cooperation of farmers, ranchers and the forestry industry on something they favor as strongly as they favor conservation. These people have grown up with conservation. They have always taken pride in it. Many of them have already made expensive personal investments in it because they get to enjoy the results more than anyone.

What's needed is some assistance from a soft-spoken biologist in understanding what species are on the land and what their habitat requirements are, and some modest

incentives for any actual income lost due to the endangered species' real needs. These will prove to be low-cost and highly rewarding investments for any endangered species program.

THOSE CONFUSING "CONSERVATION" SUBSIDIES

One final word about the cropland diversion programs which have been operated fraudulently in the name of conservation. The USDA's Agricultural Stabilization and Conservation Service should never have been allowed to label itself a conservation agency. The agricultural price supports have had major environmental impacts, few of them favorable. The price supports have led to the draining of wetlands which should not have been drained, to the plowdown of steep and drought-prone land which should not have been plowed, to discouraging crop rotation and often the overuse of chemicals

The so-called "conservation impact" of annual cropland diversion has actually been to stimulate the conversion of wildlands to crop production in other countries. Our cropland setaside creates no wildlife habiat, prevents no soil erosion worth discussing, and produces no farm products. It simply wastes the sunlight and rainfall which descend on the land over the course of the year.

The conservation impact of the so-called Conservation Reserve Program is also highly questionable. CRP did not even take out the most fragile farmland in America, let alone in the world. Too many of the CRP acres were put under 10-year contracts because it was inconvenient for the owners to farm them.

About 20 percent of the CRP land has been put into trees. Very likely this was most of the really poor land put into the CRP. Now that's done, because the trees will stay in place. The contracts on the rest of the CRP land should be allowed to run out. The land should be put back into the forage or crop production for which it is best suited -- so long as any cropping is done with conservation tillage.

Testimony by Gene Wood
Representing
The Society of American Foresters

COMMITTEE ON RESOURCES

U.S. House of Representatives

May 25, 1995

Re: Comments on the Reauthorization of the Endangered Species Act

Mr. Chairman, my name is Dr. Gene Wood. I am representing the Society of American Foresters (SAF). The Society, 18,000 members strong, is the scientific and educational association representing the forestry profession in the United States, including public and private practitioners, researchers, administrators, educators, and students. Our primary objective is to advance the science, technology, education, and practice of professional forestry for the benefit of society.

Introduction

The Society of American Foresters recognizes *The Endangered Species Act (ESA) of 1973* (P.L. 93-295, as amended; 16 U.S.C. 1531-1543) as one of this nation's most important and powerful environmental laws. However, the methods of implementing the act and its use to restrict forest management on public and private lands suggest modifications are needed to temper the initial goals of the act with the reality of society's need for forest resources.

The ESA was enacted to provide a means of conserving ecosystems upon which endangered and threatened species depend, and a program to conserve such species, including those covered by various treaties and conventions. Recent listings of species as threatened or endangered (T&E) have sharpened the debate on the goals, provisions, implementation, and consequences of the Act. Two species in particular--the red-cockaded woodpecker in the South and the northern spotted owl in the Pacific northwest--have intensified the discussion, especially as they are affected by management of forest lands. The protection of both species has significant impact on forest management options on a regional scale.



Using the Scientific Knowledge and Technical Skills of the Forestry Profession to Benefit Society

ESA Reauthorization

The ESA is in need of and overdue for reauthorization. As a result of a two year review of the ESA Reauthorization by the SAF ESA Reauthorization Task Force, comprised of professional foresters, SAF made the following recommendations to the US Congress in 1993:

- Continue listing of species based solely on science.
- Provide for peer group review before completing the final listing process.
- Develop criteria and guidelines for listing below the species level and use scientific techniques to answer questions on speciation, subspeciation, and distinct populations.
- Mandate recovery plans that address physical and biological feasibility and consequences, economic efficiency, economic impacts, social or cultural acceptability, and operational or administrative practicality of recovery actions. Include a range of recovery alternatives and risk analysis of each.
- Complete recovery plans within one year of listing using a core group of an experienced recovery team, managers, planners, and scientists.
- Develop measurable and clearly defined recovery objectives and recovery timeframes for each species at lowest feasible social and economic costs.
- Evolve toward ecosystem management as public policy for public land management as scientific knowledge becomes available to support this approach.
- Prioritize species for recovery efforts to wisely allocate scarce financial resources.
- Change the composition of the Endangered Species committee ("God Squad") to enhance involvement and knowledge of the issues by members.
- Recognize rights of private landowners and society's responsibility to mitigate costs for species protection on private land.

Comments on the Reauthorization of the Endangered Species Act
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- Develop a phased approach from voluntary landowner plans to acquisition of property at fair market values for species protection.
- Delete citizen suit provisions against private landowners.

Basic Principles

Our position is built on several principles that together serve the needs of species protection and preservation while working within the general beliefs upon which society is built. The Society of American Foresters believes:

- The conservation of species and ecosystems as provided for by the ESA is important to society and the profession of forestry.
- Management of the nation's forests should take into account the entire biotic community, especially species which are threatened or endangered.
- Species conservation must operate within the context of our democratic society that depends upon, and values private enterprise and respects private property rights. As societal goals change, so do the related issues. Thus, laws will be enacted and modified over time to meet changing public values and expectations.
- The ESA must work in harmony with other laws (e.g., National Environmental Policy Act of 1969, National Forest Management Act of 1976, Federal Land Policy and Management Act of 1976) to maintain and support healthy forest ecosystems that can insure a range of resource benefits, both amenity and commodity. Therefore, conflicts surrounding the interpretation of these laws regarding species preservation should be recognized and reconciled.
- A comprehensive approach, using all environmental laws and trending toward broader ecosystem management, is needed to provide habitat protection for all species, not just those listed as threatened or endangered, thereby minimizing the need to list additional species.
- Institutions, and landowners, both public and private, should support the purpose and intent of the ESA. Cooperation, not confrontation, will offer the greatest potential for success.

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- Public and private forest lands have a significant role and responsibility in the conservation of species and ecosystems. Pursuant to the 5th amendment to the U.S. Constitution, basic private property rights must be considered, valued, and protected where private lands are necessary to conserve a listed species or habitat.
- As U.S. and world populations continue to increase, there will be additional demands on forest lands to produce a range of outputs. Applying the ESA must consider human needs for both commodities and a healthy environment.

The Society of American Foresters makes the following recommendations for improving the current ESA and its application:

The Listing Process

Listing of species should continue to be based solely upon the best scientific and commercial data available, as currently stated in the ESA (Section 4b). The Secretaries of Interior and Commerce may, on their own initiatives, propose to list species, and interested parties may petition for a listing but, in either case, neither the general public nor the biological sciences community of interests are involved in the process for purposes of comment until after a proposal to list is published in the Federal Register.

With respect to the scientific basis of a proposed listing, the broad interests of society must be provided for in a revised process which guarantees an objective and impartial application of science in determining the adequacy of biological information that supports proposals or petitions to list a species.

Accordingly:

- Prior to a listing, a proposal to list should be referred to an independent Select Biological Committee (SBC) comprised of federal and state government, and private sector scientists who are not involved with federal agency listing activities.
- The SBC "peer group" would accept, hear, and review all information pertinent to a listing proposal and make a finding about the scientific adequacy of the proposal. If the Secretary's subsequent decision to list is inconsistent with the SBC finding, the Secretary must disclose the inconsistency, and explain to the public the reasons for proceeding with the listing.

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- The SBC should also participate in developing or changing criteria and guidelines for listing any fish, wildlife, or plant below the species level. Modern scientific techniques such as electrophoresis, DNA analysis, or other state-of-the-art techniques should be employed where appropriate. The committee should also be involved in reviews of questions about speciation, subspeciation, and listing of populations.

The Recovery Plan Process

The recovery plan process is one of the most fundamental components of the ESA, and is initiated after a species is listed. Federal agencies have an affirmative responsibility to support the development and implementation of recovery plans, and to work towards recovery of listed species. A revised ESA should specify that recovery plans should address the physical and biological feasibility and consequences, economic efficiency, economic equity, social or cultural acceptability, and operational or administrative practicality of actions aimed at promoting the persistence and recovery of listed species.

Additionally:

- Recovery plans should contain clearly defined objectives and timeframes that lead to measurable goals for recovery and ultimately delisting of the species.
- Critical habitat designation should become a key component of and emerge from the recovery plan process.

Habitat Conservation Plans are an important component of this recovery plan. Habitat Conservation Plans (HCP) have been developed by private entities in voluntary cooperation with the U.S. Fish and Wildlife Service that are effective in preserving and providing habitat for endangered and threatened species. Plum Creek Timber Company has established HCP's for both the Grizzly Bear and the Spotted Owl in the Cascades region of Washington. In the Southeast, Georgia Pacific Corp., Hancock Timber and International Paper Co. have developed HCP's for the Red-cockaded woodpecker. Pinehurst Country Club in North Carolina has managed Longleaf pine to *encourage* the Red-cockaded woodpecker to inhabit their property to facilitate recovery of the species. All of this has been accomplished under Section 7 consultations within the current law.

Realizing the potential for extreme adverse impacts to the private property rights of Pacific Northwest landowners under Option 9 of the President's

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Northwest Forestry Plan, the US Fish and Wildlife Service has exempted all private woodland owners whose property is eighty (80) acres or less in size from the Spotted owl recovery program. Thus, the Interior Department is utilizing significant administrative leeway provided under the ESA. This is the type of science-based, common sense implementation of the ESA that is needed. More of this kind of innovation and constructive reauthorization discussion is needed.

- The entire recovery plan process should be completed within twelve months following the listing of a species.
- To improve the efficiency and continuity of the recovery plan process, special recovery teams should be established around a core group of experienced recovery process planners and scientists. The core team would be augmented with the appropriate species specialists from within and outside the agency responsible for each individual recovery plan initiative. Provision should be made for periodic review and public comment on proposed revisions.
- To gain the efficiencies that the shortened recovery plan process should yield, society must accept the fact that plans will be "living documents" that will change as additional data becomes available. Recovery plans should acknowledge key information needs and provide for research, inventories, monitoring, and specified timelines to fill information gaps and be adjusted when necessary to reflect new knowledge.
- Recovery plans should include alternative options for achieving recovery, with associated risk analysis to assess the likelihood (high, medium, or low) for success of these options. Whenever possible, the alternative that achieves recovery with the least adverse socioeconomic impact should be selected.
- The agency responsible for recovery initiatives should develop a set of criteria and guidelines for establishing a species recovery prioritization process that, among other things, recognizes actual and potential ESA program funding levels and limitations, societal values and priorities, and chances for recovery success.
- While recovery plans focus on public lands, a program to stimulate government/private partnerships should be developed and implemented where private lands are critical to the recovery effort. An option to include in such

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programs should be provision to relocate listed species from private to public lands where feasible.

- Because the knowledge base for many situations is currently inadequate, a statutory requirement to list multi-species and "endangered ecosystems" would be premature at this time. Rather, the recovery plan process should be stimulated to evolve steadily over the longterm toward multi-species management plans that focus on ecosystems and ecological communities.

The Secretary of the Interior and Undersecretary of Commerce for Oceans and Atmospheres released a lengthy set of documents on March 6, 1995, which describe ten principles to balance endangered species protection with economic development. Their implementation will bring significant change to the way the Endangered Species Act is implemented. These principles are strikingly similar to SAF's recommendations to Congress in 1993 concerning reauthorization of the ESA. They are:

1. Base ESA decisions on sound and objective science.
2. Minimize social and economic impacts.
3. Provide quick, responsive answers and certainty to landowners.
4. Treat landowners fairly and with consideration.
5. Create incentives for landowners to conserve species.
6. Make effective use of limited public and private resources by focusing on groups of species dependent on the same habitat.
7. Prevent species from becoming endangered or threatened.
8. Promptly recover and de-list threatened and endangered species.
9. Promote efficiency and consistency.
10. Provide state, tribal, and local governments with opportunities to play a greater role in carrying out the ESA.

Private Lands--Roles and Responsibilities

Seventy-two percent of American's commercial forests are in private ownership. These private lands play an important role in the protection of biotic communities. The principle of private ownership of land is based both upon English common law and the 5th amendment to the U.S. Constitution. Private ownership thus carries with it a commensurate stewardship responsibility. A revised ESA should encourage willing stewardship through incentive programs designed for various land use and management activities. The revised ESA, and the implementation of its principles, should recognize the following:

- Private landowners who cede control of their lands to society in the name of preserving threatened or endangered species should receive just compensation.
- Species recovery on private lands is a public responsibility. Private landowner roles concerning avoidance of "take", as defined in the ESA, must be clearly stated in federal law.
- Applicants for an "incidental take" permit are expected to file an associated Habitat Conservation Plan (HCP), which, for many landowners, could be prohibitively expensive. A new, more workable process should be substituted for the current HCP process. A phased approach, as outlined below, would address those landowners whose lands are essential to the conservation of a listed species, but who are unable to bear the costs.

Phase 1: Upon determination that a listed species occurs on private ownership, the agencies involved should, where the lands and species are essential to the conservation of the listed species, immediately seek to work with landowners and/or managers to develop a voluntary cooperative management plan that meets the species' needs for protection and landowner objectives. The plan should result in a documented finding of "no take" or "no jeopardy". Generally, the process should be completed within twelve months.

Phase 2: When steps to produce voluntary plans do not prove successful, and where material interests in the property are necessary to meet species protection goals, the responsible agency should seek to purchase a conservation easement covering the interests needed. Generally, Phase 2 should be completed within 2 years of the start of Phase 1 initiatives.

Phase 3: If neither Phase 1 or 2 prove successful, the responsible agency should seek either (1) to exchange public lands acceptable to the landowner, or

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(2) be prepared as courts may direct to justly compensate the owner. If an exchange is not acceptable, the agency should seek to acquire the affected property at a value at least as great as it would be without the presence of the listed species. Generally, Phase 3 should be completed within 3 years of the start of Phase 1 initiatives.

As an alternative to a judicial determination of easement value (Phase 2) or compensation for a taking (Phase 3), a "Market Values Board" should be considered to settle taking and values disputes that may arise. This approach should not be construed as making "compensation for a taking" an agency responsibility without a legal finding under current law that compensation for the taking is due. Rather, SAF proposes the alternative as a "willing buyer - willing seller" scenario within which to resolve administratively taking compensation cases quickly and fairly. If the result is not successful, landowner claims that compensation is due for a taking of property shall be addressed in the courts under existing law.

- If the responsible agency determines that management plans or acquisition of interests are not necessary, a landowner's responsibilities under the ESA should be considered terminated.
- Surveys or other practices to determine the presence of a listed species are a wildlife agency's (state or federal) responsibility. Landowners should grant rights of ingress, and be encouraged to cooperate voluntarily, but not be expected to bear the cost.
- Funding realities mandate establishing priorities for recovery of a species. Populations or individuals of a listed species outside of targeted recovery populations and /or critical habitats, and not part of the Phase 1 cooperative planning process, should not be subject to ESA restrictions.
- It is a federal responsibility to ensure landowner compliance with the ESA. If a landowner is thought to be in violation of the Act, citizen suit provisions under section 11(g) of the ESA should be limited to actions against the appropriate federal agencies.

The Endangered Species Committee

The make up of the current Endangered Species Committee ("God Squad") guarantees its impracticality and unworkability. Its federal members (Cabinet and near-Cabinet level -ESA, Section 7(e)(3)) are seldom personally involved in ESA tasks at hand or routinely familiar

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with the issues at stake. Except for the Secretary of the Interior (one of the six federal members) who chairs the ESA, the federal members should be replaced. In their stead should be appointed high-level and knowledgeable natural resource and social science professionals from other federal departments. The Secretary of the Interior, as under the current ESA composition, would be accountable for ESA exemption decisions.

SAF urges Congress to immediately address the issue of reauthorizing the ESA. What is needed and desirable is reauthorization of the ESA through thoughtful discussion to devise legislation that is firmly grounded in science, and with due consideration to economic and social factors.

STATEMENT OF DR. TOM J. CADE, PROF. EMERITUS, CORNELL UNIVERSITY, AND FOUNDING CHAIRMAN, THE PEREGRINE FUND, INC., BOISE, IDAHO, ON CAPTIVE BREEDING, TRANSLOCATION, AND THE ENDANGERED SPECIES ACT.

Mr. Chairman, Thank you very much for inviting me here before the Endangered Species Act Task Force to speak about the role of captive propagation, translocation, and other "hands-on" methods in the restoration of endangered species, and how those procedures relate to the overall strategy for preservation and recovery of species listed pursuant to the Act. I will present this information from the perspective of my own work and that of the organization which I represent, and I will comment on how the ESA has influenced our endeavors--both the good and not-so-good aspects. I should note for the record that we have had a great deal of practical experience with the implementation of the Act ever since its enactment in 1973 and were involved in discussions about amendments in 1978 and 1985.

The Peregrine Fund, Inc. is a nonprofit conservation organization which was originally incorporated in the early 1970s for the study and conservation of falcons and other birds of prey. Today our mission has expanded to include a focus on birds generally as "flagship species" for the conservation of nature. Although we are best known for our pioneering work to restore populations of the Peregrine Falcon by captive breeding and release of propagated falcons back to nature, we have also been involved with similar efforts to restore four other U.S. endangered species and four foreign ones. In addition, we have carried out broader, ecological studies on raptors and other birds in a dozen countries around the world, notably in Greenland, Guatemala, Madagascar, East Africa, and the Philippines. Recently we have become involved in a major research and propagation program for endangered forest birds in Hawai'i.

Mr. Chairman, I have provided your committee with our latest Annual Report for 1994, which gives details about all of our current activities. I ask that it be included in the record of this hearing. We are a small organization, but we get a lot done.

Restoration of the Peregrine Falcon

Because restoration of the Peregrine has become a model for work on other species in our own organization, as well as for many other groups around the world, I want to review briefly the history of that effort, before considering some other successful "hands-on" projects involving birds. The idea of breeding Peregrines in captivity for species restoration emerged at a now famous conference held at the University of Wisconsin in 1965. At that conference experts from around the world became convinced that DDT and other organochlorine pesticides had been responsible for unprecedented population crashes of the falcon in both Europe and North America during the 1950s and early 1960s. At that time, the

Peregrine had already vanished as a breeding bird from all historically known nest-sites in the eastern third of the United States and southern Canada, and by 1975 fewer than 50 pairs could be found in the West. Arctic-nesting Peregrines in Alaska and Canada had declined by 50 per cent of their earlier numbers.

Many scientists feared that the Peregrine might disappear from most or all of its range in North America and Europe. Against that background of concern, a number of biologists and falconers decided that captive breeding might be a way to save the bird. It had been bred successfully once by a German falconer during World War II.

Fortunately, the first EPA Administrator, William Ruckelshaus, rendered his landmark decision in 1972 to ban the use of DDT for nearly all purposes in the USA, and a ban on dieldrin followed soon after. Canada had made the same decisions even earlier. There was hope that the environment would soon be clean enough for the reappearance of the Peregrine, and that by proper release of captive bred falcons, the vacant eastern range could be recaptured and the greatly diminished numbers in the West could be increased.

Following the Madison conference, a group of my graduate students and I began to gather in a collection of captive Peregrines for breeding at Cornell University, and by 1970 we had a "Hawk Barn" at the Laboratory of Ornithology on Sapsucker Woods Road with 20 or so potential pairs. In 1973, the same year the ESA became law, we produced our first young Peregrines. By 1975 we were producing enough young so that experimental releases could begin, and we needed money to move this work forward, as we had barely made ends meet with a small research grant from the National Science Foundation.

By then the ESA had been fully implemented. I looked at the Act--I still have my original 1973 copy--and it seemed to me that the meat of the law was right up front in the "Findings," where it says, "The Congress finds and declares that...encouraging the States and other interested parties, through federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish and wildlife."

I considered The Peregrine Fund to qualify as "an interested party," and so I went to the Fish and Wildlife Service and asked for some money to release Peregrines. It turned out that the Endangered Species Program only had \$5.5 million in its budget for FY-75, and the Peregrine was not high on the list of priorities. I got a friendly pat on the back and sent on my way.

I then looked at the second page of the Act, and under "Policy" I read, "It is further declared to be the policy of

Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." Nothing coercive there, but the language seemed to allow for some moral persuasion. So, I went to the U. S. Army at the Aberdeen Proving Grounds in Maryland. I knew they had been doing some work with Bald Eagles in the Chesapeake Bay, and there was a man there with a passionate interest in Peregrines. He and I showed the top brass this policy statement, and--to make a long story short--they agreed to give me \$15,000 if Fish and Wildlife would match it! I went back to the Service; they thought it was a good deal, and The Peregrine Fund ended up with its first federal contract for \$30,000 to release Peregrines.

We also had help from the State of New Jersey that year, and from the Massachusetts Audubon Society. We released 16 Peregrines, including four from a decommissioned gunnery tower on the Edgewood Arsenal. It was our version of beating swords into plowshares. Twelve of those falcons survived to return the following year.

That was the beginning of a remarkable national and international cooperative effort to restore the Peregrine Falcon, an effort, I believe, unparalleled in the annals of wildlife conservation. For the past 20 years, all of the main federal land-holding agencies have been involved both as funders and as active participants in the field--the Fish and Wildlife Service, National Park Service, Forest Service, Bureau of Land Management, U. S. Army, and U. S. Navy. At least 30 state wildlife agencies have participated, and several county and city governments--New York City, Washington, D.C., Los Angeles, etc. Hundreds of non-governmental organizations--universities, conservation groups, foundations, utility companies, mining companies, oil companies, timber companies, insurance companies, banks, and hotels--not only funded work but in many cases provided locations for the release of Peregrines. Several hundred summertime field-assistants, many of them students, watched after the released falcons until they became independent, wild hunters.

Briefly on the results of all this effort, more than 5,000 Peregrine Falcons have been released in five regional programs, including Canada. In 1994 there were approximately 1,000 pairs in the contiguous United States, about as many as there ever were in this century, but their distribution is not the same. Now there are more than 80 pairs nesting in urban areas, while other pairs are nesting on bridges or special towers in salt marshes. There are many more naturally occurring pairs in the Southwest than there used to be, but none along the major eastern rivers where Great Horned Owls have taken over the old, river-bluff eyries. In Arctic Canada and Alaska Peregrines have increased to their pre-DDT numbers, and in some places are more numerous than they were. The entire story has been detailed in our book Peregrine Falcon Populations, Their Management and Recovery published by The

Peregrine Fund in 1988.

Captive breeding and reintroduction cannot be credited for all this recovery, because there has been a great deal of natural increase from the remaining wild pairs following the reduction in use of organochlorine pesticides, especially in the Southwest and Arctic regions. Even so, all of the 180 known pairs in the eastern third of the continent south of the boreal forest are derived from captive produced and released birds, and so too are all of the more than 60 pairs in the Greater Yellowstone Ecosystem. Also, about half of the pairs in the states of Colorado, California, Oregon, and Washington wear bands identifying them as released birds. The total is at least 350 reintroduced pairs in the United States. The American Peregrine Falcon is now ready for removal from the list of endangered species, and we expect to see it delisted this year.

A final point about the Peregrine program. In all these activities across the length and breadth of our Nation, involving so many diverse interests which came together for the common purpose of restoring the Peregrine Falcon, we never had a major conflict that could not be resolved by using common sense, goodwill, and reasonable approaches. We never got involved in a formal jeopardy consultation, the designation of critical habitat, or any of the needless and disruptive conflicts we hear so much about these days. There were no lawyers, no court injunctions--none of that legal hassle.

I do not mean to imply that there were no problems. There were plenty. I can remember specific cases involving highway construction and blasting near nests, timber cutting, bridge and building maintenance, rock-climbing on nesting cliffs, waterfowl hunting around refuges where Peregrines nest, deliberate shooting of falcons at pigeon lofts, and even problems with Peregrines killing other endangered birds. But in all cases these conflicts could be solved at the local level in the field through informal consultations and agreements among the concerned parties. There was no need for Big Brother to step in with a club.

Captive Breeding and Translocation of other Avian Species

The Peregrine Fund has carried out hands-on work with four other endangered species in the United States. In 1976 and 1977 we helped New York State launch a very successful effort to reestablish Bald Eagles in that state by translocating wild-hatched eaglets from nests in Wisconsin and Alaska. At the time only one unproductive pair remained in New York. The first eaglets we released at the Montezuma NWR paired and bred in 1980 and have reared young every year since. State biologists went on to release about 100 eaglets from Alaska, and today New York has 23 pairs on territory, not to mention some others in adjacent states. Bald Eagles have also been successfully reestablished in California and in Oklahoma and the south-central states.

We have also been breeding the Northern Aplomado Falcon in captivity and releasing the progeny on the Laguna Atascosa NWR in south Texas. This species used to be common in the grassland-savannas and Chihuahuan Desert region along our border with Mexico but disappeared as a breeder north of the border in the 1940s and early 1950s. After releasing 43 falcons, this spring we have seen the first pair in 50 years nesting in Texas.

In 1993 The Peregrine Fund became the third breeding center approved by FWS for the California Condor, joining with the San Diego and Los Angeles zoos. We house 10 pairs at our World Center for Birds of Prey in Boise, Idaho. Captive breeding of this species has proved to be relatively easy, and as a consequence the number of condors has increased from only 21 in 1987, when the last wild birds were brought into captivity, to more than 100 this spring. Considering the great controversy that raged over the captive breeding of condors, this impressive number fully vindicates the unpopular decision to take the birds out of the wild temporarily.

The reestablishment of condors in natural surroundings is going to be much more complicated, and The Peregrine Fund will be working actively on this problem. It is likely that the first release of condors outside California will occur this fall in northern Arizona.

More than 90 per cent of all bird extinctions since 1600 have been on islands, and Hawai'i is no exception. Today half of all endangered bird species inhabit these fragile, usually highly degraded environments, and 19 native forest bird species are listed as endangered in the Hawaiian Islands alone, most of them critically so.

In 1992, the U. S. Fish and Wildlife Service and the State of Hawai'i requested our help to conserve and restore the islands' endangered birds, most of which are highly specialized and little known. We began with the Hawaiian Crow or 'Alala on the Big Island; only 11 crows still existed in the wild on the private, McCandless ranch. By taking eggs from wild nests and hatching them in incubators, rearing the young, and then releasing them back into the forest, we have been able to double the wild population in two years. Meanwhile, a captive population has also increased to about 15 birds.

In 1994 we entered into an agreement with FWS and the State to design, build, and operate a captive propagation and research facility on the Big Island for all endangered Hawaiian forest birds, with reintroduction as the goal. Again, this is a cooperative venture involving federal, state, and private interests. The FWS is funding the facility, the National Biological Service will conduct field research, the Bishop Estate has provided the land, and The Peregrine Fund will manage and staff

the operations.

Overseas we have been doing similar work with the Philippine Eagle, Harpy Eagle, Madagascar Fish Eagle, and the Mauritius Kestrel, a small falcon endemic to this one Indian Ocean Island. The kestrel represents one of the most diagrammatic and impressive examples of how intensive management of a species can lead to greatly improved population viability. When work started on this species in 1973-74, the population had been reduced to fewer than 10 individuals, only two known pairs, and only one reproductively active female, owing mainly to habitat loss and pesticides. Only two other bird species, both island endemics, are thought to have increased numbers significantly after such a severe bottleneck leaving a single reproductive female--the Laysan Duck in Hawai'i and the Black Robin in the Chatham Islands of New Zealand. By slowly building up a captive population from wild eggs hatched in the laboratory and then releasing the progeny, and later by also harvesting wild eggs for hatching and returning the young directly back to nature, the wild kestrel population has been increased to at least 70 pairs and about 300 individuals, and we expect an eventual population of some 200 nesting pairs on Mauritius. The accompanying article by C. Jones et al. from Ibis (1995) gives a full account of this remarkable recovery, which has important implications for the restoration of other critically endangered island endemics.

Birds of prey have turned out to be especially amenable to these sorts of highly manipulative procedures. In Europe, for example, captive breeding and translocation have been used to establish populations of the Goshawk, White-tailed Sea Eagle, and Red Kite in Britain, the Griffon and European Black Vulture in France, the Bearded Vulture in the Alps, Montagu's Harrier and Lesser Kestrel in Spain, Peregrine Falcon and Eagle Owl in Germany and Sweden, and the Pygmy Owl in the Black Forest of Germany.

Conclusions

I do not want to lead this committee astray with all these stories of success. Many of my colleagues in conservation biology have expressed strong reservations about the intensive approach to single species management, preferring more holistic approaches involving habitat preservation and management of ecosystems. They make some valid points.

Captive breeding and translocation should not be viewed as a panacea for all species. They are not substitutes for habitat preservation and for equitable land-use practices that maintain suitable living areas for wild species at the scale of regional landscapes. Obviously there has to be suitable habitat remaining before a species can be successfully reintroduced, and, indeed, the more optimal and natural the habitat is the greater the chances for reestablishment. Many species require special habitats that result

only from natural, ecological processes, and they can survive nowhere else. Only a few species, such as the Peregrine, are generalized enough in their habits to survive in highly modified or new environments. Furthermore, only a few species can be bred successfully in captivity, and of those that can be propagated in significant numbers, only some can be successfully released to the wild because of poor physical or behavioral characteristics resulting from captivity.

Still, hands-on methods have worked well for some species. They are perhaps best held in reserve as methods of last resort, when the more conventional procedures of legal protection and habitat preservation prove to be insufficient to prevent extinction or to restore greatly diminished populations. These actions may be called for when populations reach such critically low numbers that any of several kinds of chance events (environmental, demographic, genetic) could wipe out the entire species (e.g., California Condor, Mauritius Kestrel, Black Robin), or when wide-ranging species become extirpated from large portions of their original range with little likelihood for natural recolonization (e.g., Peregrine Falcon, Aplomado Falcon, Bald Eagle, Goshawk and Sea Eagle in Britain, etc.). See the appended article by Cade and Temple (Ibis 1995) for additional examples and discussion of the role of hand-on procedures.

As better methods of husbandry for wild species in captivity and for translocation are developed, we will see more successful applications of these procedures, and as natural habitats continue to disappear or to degrade owing to human impacts, we will see a greater need for restorative actions for both plant and animal species at the community level of organization. Restoration ecology is an emerging discipline that will make significant contributions to future conservation.

In short, captive propagation and translocation are just two among many techniques for recovering endangered species. There is no reason why they should be ranked as lesser or greater in importance than other methods. As with any other method, they should be used whenever there is a clear indication that species survival and restoration will be aided by doing so.

To end my statement, Mr. Chairman, I want to comment on how the Endangered Species Act has both helped and sometimes hindered our recovery efforts. We hear a great deal these days about problems with the Act--about economic hardships caused to landowners and developers, and so on. I think it is understood by our citizens that the benefits of species preservation and nature conservation are not without costs, but I believe there is a simple remedy for the more egregious burdens that have been placed on some people. All that is required is to change the regulatory definition of the word "harm," and bring its meaning back in consonance with the other words with which it is associated in the

Act's original definition of "take." I am sure others have thought about this solution too, but I do want to make sure it has been called to this committee's attention.

The main area where The Peregrine Fund has encountered difficulties has been with the permitting process required to do research and management. The problem is compounded by the overlapping and sometimes contradictory requirements for permits under CITES, which the ESA enables, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the totally redundant Wild Bird Conservation Act. As currently written and implemented, the federal wildlife permitting regulations are too restrictive, complicated, and time-consuming. Compliance costs us hundreds of hours and thousands of dollars a year and discourages and inhibits conservation of species. We have made some recommendations for streamlining and simplifying the permit process by amendment to the ESA, in order to minimize the burden on both the permitter and the permittee, while still providing FWS with the necessary authority to screen out inappropriate applicants and to handle violators. These recommendations are in a memorandum to the Endangered Species Task Force dated 25 May 1995, and I ask that they be included for the record with my statement.

Turning to the brighter side, as I have already indicated, the great strength of the ESA, aside from the moral and spiritual imperative it places on the Government and the Nation to save endangered species, are the provisions embedded within it for cooperative actions to preserve and recover species. Section 6 of the Act speaks to cooperation between the federal government and the states. I would like to see this section strengthened and funding for state actions increased in proportion to other programmatic functions, especially in relation to consultation and law enforcement. Further, I would like to see specific language to include NGOs, such as universities and conservation organizations, as cooperators.

The closest approach to such language is in Section 4(f)(2), under "Recovery Plans," where it states that "The Secretary, in developing and implementing recovery plans, may procure the services of appropriate public and private agencies and institutions, and other qualified persons." I am a strong believer in getting the most qualified and dedicated people involved in endangered species work, whether they be government employees, university professors, or retired firemen. The Act needs to have maximum flexibility to involve all those truly gifted people who have the "green thumb" and the zeal to succeed with the species they know and love best. Thank you.

Conservation and Private Property

Remarks of

**Rob Gordon
Executive Director
National Wilderness Institute**

to the

**Endangered Species Task Force
of the
Committee on Resources**



**Washington, DC
May 25, 1995**

Introduction

Mr. Chairman, thank you for this opportunity to appear before the Endangered Species Task Force of Committee on Resources to provide the views of the National Wilderness Institute, a private conservation organization that is dedicated to using sound, objective science for the wise management of natural resources.

The debate over the reauthorization of the Endangered Species Act is often presented in the simplified terms of those who are defenders of species and those who are defending themselves against an out of control and intrusive law. Critical questions are raised in such discussions. However, it is important that during the consideration of the law that we consider the fundamental question of whether the law has done what it was intended to do, has it been good for wildlife. If not, how should we go about making it better?

The Endangered Species Act defines "conservation" as the use of all methods and procedures necessary to bring listed species to the point at which the Act's protection is no longer needed. Simply put, the Endangered Species Act was ostensibly designed to recover and delist animals and plants that were determined to be in danger of extinction and added to the Federal list of endangered and threatened species. FWS recognizes this by their statement that, "The principal goal of the U.S. Fish and Wildlife Service and the National Marine Fisheries Service is to return listed species to a point at which protection under the Act is no longer required."

Failure to Recover

Unfortunately, although the status of some species has improved during the time the Act has been in effect, to date not one species has been taken off the list as a result of successful ESA recovery efforts. Although eight (seven and one population) species have been officially termed "recovered," in each case "data error" (meaning putting it on the list was a mistake) or recovered because of factors unrelated to the Endangered Species Act would be a more accurate explanation for delisting. Each of these cases is summarized below.

Palau Birds: Three of the official 'recovered' species are birds on a the tiny North Pacific island of Palau. However, according to the General Accounting Office, these birds actually owe their 'recovery' to the discovery of additional birds.

Rydberg milkvetch: Another formerly listed species now officially termed as recovered is the Rydberg milk-vetch. This plant, however, should have had its delisting attributed to 'data error'. John Turner, former FWS director revealed during a Senate hearing that the Rydberg milk-vetch was delisted because "further surveys turned up sufficient healthy populations."

Gray whale: Another on of the Act's claimed recoveries is the gray whale. Although it is true the gray whale's population is at an all-time high in the Pacific for the time frame for which we have data, its population has been growing since 1890 (83 years before the ESA was adopted), tripling from a low of fewer than 5,000 to approximately 14,000 three years before the Act became law.

American alligator: While some still consider the Alligator a recovery, including the National Wildlife Federation, before controversy around the Act began to heat up even the National Wildlife Federation admitted in its magazine that the "familiar and gratifying" recovery story of the alligator was "mostly wrong."

Eastern brown pelican and Arctic peregrine falcon: Many ornithologists consider the banning of DDT, which preceded and was unrelated to the Endangered Species Act, as the primary reason for the resurgence of the Eastern brown pelican and the Arctic peregrine falcon. Likewise, in announcing the delisting of the Arctic peregrine falcon, FWS Director primarily credited the DDT ban for the bird's recovery .

Bald Eagle: Although the bald eagle has not been delisted many of the Act's advocates are hailing it as a success example. Recently, however, the National Audubon Society stated "Nearly everyone agrees that the key to the Eagle's resurgence-- even more than the Endangered Species Act-- was the banning of the insecticide DDT in this country in 1972..." Additionally, Fish and Wildlife data show a dramatic decline in the number of eagle deaths attributable to shooting, from 62% to 35%, in the decade preceding passage of the Endangered Species Act.

No Positive Trend

Not only do we have no legitimately recovered species but also little if any indication that the Act is generally improving the status of any listed species. In its December 1990 *Endangered and Threatened Species recovery Program: Report to Congress* the Service made the statement that :

"Species listed longer appear to have a better chance of becoming stable or improving."

What this statement leads one to believe is that species listed longer have lower rates of population decline and therefor the Act is, if not yet leading to recoveries, heading in that direction. However, several years after the issuance this initial report FWS remains unable to substantiate this claim. In response to criticism about this statement, the Service sought refuge in the assertion that graph in the report used to illustrate this assertion "was...a 'qualitative' visual rather than a product of specific statistical analysis." And although the recently retired Deputy Director of the Service, Dick Smith has stated that the word "appears", as it was used in this assertion, is a "weasel word" because of the lack of additional supporting data, the Service has not retracted this claim.

% 'Stable' or 'Improving' Is Not a Meaningful Indicator

Rather, in its most recent Report to Congress, the Service has highlighted the number of species which it has categorized as "stable" or "improving" with the clear intent that this be interpreted as showing the Act is leading towards recovered species. This, however, is a faulty assumption for several reasons.

First, the determinations of 'improving' and 'stable' are purely qualitative measurements. One species could increase from 5 individuals to 6 and it could be called 'improving.' Another could go from a population of 1,000,000 to 999,999 and be called 'declining.' Clearly this information is not too useful without also having quantitative data.

Secondly, there are no established or public guidelines as to what measurements are used to determine status. According to the Service this categorizing may be based on nothing more than a biologist's opinion.

Thirdly, there is a fundamental fallacy in the argument that because some percentage of listed species is categorized as being 'stable' or 'improving' at any particular moment one can assume that the implementation of the Act has resulted in a positive trend. This is an attempt to claim success based upon data that presents nothing more than a "snapshot." Essentially, this is like showing a still photograph of a car and arguing it is going fast. From the photo we cannot determine that it is going fast. In fact, we cannot determine if it is moving at all or even its direction. In its most recent report the Service presents no data describing the status of species throughout intervening years of listing or any data specifying species' rates of improvement or stabilization in their years of listing—which are indispensable reference points if one is to discern trends in species recovery.

If it were an absolutely safe assumption that all species are declining when added to the list then simply stating how what percent of species are later deemed 'stable' or 'improving' might mean something. However, for at least two reasons, this assumption cannot be made.

Poor Listing Criteria

First, the law does not require that the population trend of a species be negative for the species to be added to the list. Sec. 4(a)(1)(A-E) lays forth that a species may be listed, among other reasons, because of "... threatened ... modification of habitat or range ...," "... overutilization....," "the inadequacy of existing regulatory mechanisms ...," or "other natural factors ... affecting its continued existence ...". It arguable whether anything escapes the first criteria of threatened habitat modification. The meaning of the second criteria, "overutilization" is defined by the opinion of the regulator. The third mentioned criteria is not a reasonable justification for animals or plants which may be otherwise doing fine. Just because there might not be federal authority to regulate earthworms does not mean they are endangered. And as regards the last mentioned criteria, it is a bit of an impossible guideline for our current policy. For example, for one endangered invertebrate, the Iowa Pleistocene snail, the current government plan calls for conserving its remaining habitat until the next ice age.

B. A. D. or Best Available Commercial and Scientific Data

Second, under the current program the evidentiary standards for listing are, in a word, bad. I use the word bad because it is an apt acronym for the standards which under Sec. 4 (b)(1)(A) are "...best scientific and commercial data available..." The problem with best available data, or BAD, is that best is a comparative word. Thus the data need not be reliable, conclusive, adequate, verifiable, accurate or even good.

As the number of listed species now approaches 1000, with thousands of official candidates in the wings, we are finding that the current standards often lead to mistakes. Reviewing these 'data errors' makes a strong argument against the B.A.D. standard and clearly demonstrates that all species are not declining when added to the list.

Indian flap-shelled turtle: Regarding one 'data error', the Federal Register states: "As a result of the Indian flap-shelled turtle's inclusion on Appendix I of CITES [a United Nations endangered species list] the Service subsequently listed the species as endangered." After listing, rather than before, a "...literature review was conducted to see if supporting evidence justified its current endangered status. No such supporting data could be found." In a further attempt to find supporting information, the Service then contacted turtle experts such as Dr. E. O. Moll, who happened to be researching in India at that time. Moll stated that it was "seemingly the most common and widespread turtle in all of India ... How it ever made Appendix I is a big mystery."

Pine Barrens tree frog: The case of another 'data error,' the pine barrens tree frog, is similar. Only those pine barrens tree frogs found in the frog's southern range were listed. After listing, FWS worked with Florida officials to gather information about how many frogs actually existed. According to the Federal Register, "Data were presented which expanded the species' known Florida distribution from 7 Okaloosa County sites to a total of over 150 sites..." in 3 counties. Further studies including Alabama areas revealed a total of 165 more sites than were believed to exist when a fraction of this frog's population was listed—an error of more than 21 in magnitude.

Mexican Duck: The Mexican duck, another 'error', was determined to be essentially a "blue-eyed version"[not literally] of a common duck, the mallard. The Federal Register states "all reports and observations of 'Mexican ducks' in the United States and Northern

Mexico must now be interpreted to be of only 'Mexican-like ducks'" and that "'Mexican ducks'... are only identifiable segments of the entire population, just as brown-eyed and blue-eyed individuals are phenotypic segments of the human species."

Tumamoc globeberry: The tumamoc globeberry, a vine which is the most recent 'data error,' was delisted by FWS on June 18, 1993. After including this plant on the endangered species list for 7 years, FWS determined, "surveys have shown Tumamoc to be more common and much more evenly distributed across its range than previously believed...." Although never really endangered, during its 7 years on the list this plant over \$1.4 million in funds from the Corps, BLM, DOD, NPS, USFS, and the Bureau of Indian Affairs, Mines and Reclamation were expended on the plant and it was the basis for FWS to issue a jeopardy opinion on the Tucson Aqueduct.

According to a recent planned budget, 40 species will soon be considered for delisting. However, in many of these cases the most acceptable reason for delisting is again bad data. For example, in the case of the Maguire daisy, the Unita Basin hookless cactus and the Wright fishhook cactus, FWS has discovered greater "species abundance," "additional populations," greater "range distribution," and even that a 'variation' formerly thought to be distinct was not distinct at all.

These are only a sample of many bad listings or data errors that are not 'declining' species. Others possible data errors are not even under consideration for delisting. For instance, in regard to spotted owls, a National Audubon Society Blue Ribbon Panel concluded in 1986 that "it is likely that there are between 4,000 and 6,000 individuals in the Pacific states." Since that time surveys have indicated much greater numbers such as 6,849 owls in Washington and Oregon alone with an additional 3,234 owls in California — over 10,000 northern spotted owls not including the thousands of Mexican and California spotted owls.

Little Data Available Regarding Many Listed Species

Furthermore, in a comprehensive review of 306 recovery plans many showed there was little information about the status of listed species. Following are a few example drawn from USFWS approved recovery plans:

Cave Crayfish: 'Sufficient data to estimate population size or trends is lacking.'

Kentucky Cave Shrimp: 'The very small estimated population size of the species at the time of listing (approximately 500 individuals) made it stand out as being extremely vulnerable to extinction. Since the time of listing, new populations have been discovered...Population estimates...range from approximately 7,000 to 12,000 individuals.'

Red Hills Salamander: 'There is no evidence that the animal has occurred outside its present range within historic times...' and 'Comparative data relating temporal trends in population densities are unavailable...'

Painted Snake Coiled Forest Snail: 'Information on the snail's ecology and natural history is almost completely lacking.'

In FWS's latest *Endangered and Threatened Species Recovery Program: Report to Congress* only qualitative information about species is included and there is not even a qualitative 'guesstimate' for about 27% of the listed species. This is an increase of 7.6% from the previous report. This high and increasing percent of 'unknowns' in combination with the facts that there has been a history of mistaken listings, that listing criteria are low and that criteria standards are the absolute minimal suggests that the number of species which continue to be wrongly listed may be quite significant.

Usefulness of Many Recovery Plans Questionable

In addition to the fundamental structure of the law being flawed as concerns promoting recovery of endangered species as will be addressed later, some of the information revealed in recovery plans leads one to question about the future prospects of any species being recovered because of the management actions taken under the Endangered Species Act. In a study reviewing the 306 recovery plans written between 1970 - 1993 which covered 58 invertebrates, 23 reptiles, 8 amphibians, 57 fish, 72 birds, 35 mammals and 135 plants several important and disturbing findings were made including:

Recovery Plans often conflict with the definition of "conservation" in the Act by stating that recovery is unlikely or impossible. The Endangered Species Act defines "conservation" as the use of all methods and procedures necessary to bring listed species to the point at which the Act's protection is no longer needed. FWS states that, "The principal goal of the US. Fish and Wildlife Service and the National Marine Fisheries Service is to

return listed species to a point at which protection under the Act is no longer required." Several recovery plans, however, conclude that delisting is unachievable or even not "desirable."

Examples:

Cave Crayfish: "Due to the apparent limited potential for discovering new populations, the delisting objective may never be attainable."

Florida Scrub Jay: "Because of the extreme usefulness of the Act in this case, it is not desirable to remove the scrub jay from protection under the Endangered Species Act." "There is no anticipated date of recovery because it may never be feasible to delist this species."

Mexican Wolf: "...the Mexican Wolf Recovery Team sees no possibility for complete delisting of the Mexican wolf."

Red Hill Salamander: [delisting] "may not be attainable within the foreseeable future because of the animals small range..."

Ring Pink Mussel: "Total recovery is not thought possible."

Spikedace: "Protection of existing population. Eventual delisting, if possible."

Tar River Spinemussel: "Though the ultimate goal is to recover the species to the point where it can be removed from the Federal List of Threatened Wildlife and Plants, full recovery of the Tar River Spinemussel may not be possible."

Tuberculed-Blossom, Turgid-Blossom & Yellow-Blossom Pearly Mussels: "it is highly improbable, if and when living specimens of any one of the three subject species are found that... the species can ever recover to the point of delisting."

White Cat's Paw Pearly Mussel: "...recovery to the point where the species no longer requires protection under the Act is unlikely."

Plans often have criteria for "delisting" or "downlisting which appear unattainable.

Examples:

Iowa Pleistocene Snail: "With a return to glacial conditions it will be resuscitated over the major part of the upper Midwest, provided its relictual areas are preserved and maintained..."

Mount Graham Red Squirrel: "...at least 100 to 300 years will be necessary to restore Mount Graham red squirrel habitat."

Stock Island Snail: "Although no estimates of historical population sizes are available, the extant population is presumed to have been moderately stable in the recent past because its present habitat has been stable...for the last 40 years...4.8 acres." Recovery criteria called for expanding the snail's population from the only known 4.8 acre habitat to 20 acres and establishing 30 new populations. "Hopefully, the 'recovered' population would then be able to withstand the major stress of severe hurricane."

Utah Prairie Dog: "To establish and maintain the species as a self-sustaining, viable unit with retention of 90 percent of its genetic diversity for 200 years."

Plans often call for enormous habitat purchase. Of the 306 plans reviewed, at least 184 call for the purchase of 'securing' of property for endangered species.

Examples:

Blunt-Nosed Leopard Lizard: "A current target acreage figure of 30,000 acres has been established for the San Joaquin Valley floor, with acquisitions emphasis on optional habitats containing high density blunt-nosed leopard lizard (BNLL) populations in identified "priority" habitat areas...conflicting land users will be reduced or eliminated in an effort to restore habitat to optimal condition. Consideration for delisting would be appropriate when similar objectives have been obtained for adjacent foothill and plain areas known to contain BNLL populations."

Eastern Indigo Snake: "two 10,000-acre tracts recommended for acquisition: one in GA, one in FL."

Loggerhead Turtle: Recovery criteria require that "25% of all available nesting beaches (560 km) is in public ownership..."

Plans often call for additional laws and regulations or the employment of legal tools other than the Act. Of the 306 plans reviewed in this study, at least 51 called for or suggested that additional laws or regulations be considered to protect a particular species. Numerous plans called for the application of other laws such as the Clean Water Act or consideration for the application of other federal laws such as designated a Scenic River to protect a species. Additionally, numerous plans called for encouraging, requesting or otherwise influencing state or lower level governmental entities to pass regulations, employ other laws or enforce ordinances, such as zoning laws, as a tool to protect listed species.

Examples:

Cumberland Monkeyface Pearly Mussel: "Investigate the use of Scenic River Status, mussel sanctuaries, land acquisition..."

Florida Golden Aster: "Arrange for protection of land through ownership, cooperative agreements with landowners or other legal measures."

Key Tree Cactus: "Local ordinances should be employed to prevent taking from non-federal lands."

Painted Snake Coiled Forest Snail: "The species cannot be fully secure without some control of land use in the cove." "If landowners are not in agreement, investigate other options for protecting habitat."

Blunt-Nosed Leopard Lizard: "Use zoning process and ordinances."

Swamp Pink: "In addition, the enforcement capability of existing regulations will be strengthened where possible, and nontraditional avenues for endangered species protection that may benefit *Helonias* (through wetlands legislation, soil erosion control requirements, etc.) will be investigated."

We Can Conserve Species In Peril

The poor record of the Endangered Species Act does not mean that we cannot conserve endangered wildlife. Compare the results of the ESA's regulatory and punitive approach which with the record of voluntary, incentive based efforts which benefit greatly from private property. Wood ducks and bluebirds came back from very depressed numbers because thousands of people built artificial nesting boxes on their private property.

Wood duck boxes built by duck hunters and placed in swamps are actually better than hollow trees at keeping out predators such as snakes and raccoons, and as a result of these boxes there are now over three million wood ducks in America – enough to support an annual harvest of over eight hundred thousand ducks.

When bluebird fanciers discovered about thirty years ago that their favorite bird was declining primarily because the English starling, an aggressive, introduced species, was taking too many of the bluebird's nesting cavities, they designed bird houses with openings too small for starlings. In the last 15 years, over one hundreds thousand bluebird houses have been built and bluebirds are on the rebound.

During the past 20 years, wild turkeys have been restored from severely depleted numbers to their original range and beyond at the impetus of turkey hunters. Today, wild turkeys are found in every state except Alaska. The turkey population is at an all time peak and growing. And the hunters who organized the restoration effort are now able to harvest five hundred thousand birds annually.

Why are these private efforts so much more successful than the Endangered Species Act ? Consider the difference between incentives and regulation. Suppose the Endangered Species Act had been adopted early in this century – wood ducks, bluebirds and wild turkeys would have been added to the federal list and regulated under this law.

How could one convince a landowner to give permission to put a nesting box on his property?

How many landowners could afford to let the Wild Turkey Federation release birds on their land if the presence of an endangered species meant they could no longer use their land?

Through the implementation of law upon heavy handed regulation backed up by punitive measures we have created a climate which pits rare plants and animals against property owners. As a result, they both.

An Example of Perverse Incentives

The experience of Ben Cone, a North Carolina timber land owner is a good example. Mr. Cone has always tried to harvest trees in a way that provided habitat for wildlife. Campers, hunters and fishermen have used his land because he believes wildlife, tree farming and outdoor recreation are compatible. But, when the endangered red-cockaded woodpecker arrived on his property, the Endangered Species Act put 1,000 acres of his property off limits to him. He has spent \$8,000 on biologists to make sure he is following the stringent rules, and figures he has lost \$1.8 million dollars in timber that is tied up in the area he cannot harvest. He is prohibited from harvesting these trees because they have reached an age at which they attract red-cockaded woodpeckers. As these trees become older the inner wood often becomes softer and thereby good insect hunting ground for woodpeckers.

Now, because of the perverse incentives of environmental regulation, Mr. Cone has been forced to ensure that no more of his property is taken because his trees become old enough to attract woodpeckers. To protect himself, Mr. Cone must harvest his remaining trees at an earlier age. The end result is that all loose. Mr. Cone has lost part of his property and has reduced management options on the remainder. The red-cockaded woodpecker has lost because once the trees now off limits to Mr. Cone are gone there will be no more habitat generated on Mr. Cone's property because he cannot afford to allow his trees to get too old. And, the taxpayer loses because dollars spent on regulators ended up harming the very bird they were spent to protect.

Awakening to the Adverse Conservation Impact of the Act

Not only are those who have long been critics of the Act pressing this point but also some who have, until recently, argued that the law functioned the way it should. Michael Bean

of the Environmental Defense Fund, for example, recently told a US Fish and Wildlife Service employee training session:

There is, however, increasing evidence that at least some private landowners are actively managing their land so as to avoid potential endangered species problems. The problems they are trying to avoid are the problems stemming from the Act's prohibition against people taking endangered species by adverse modification of habitat. And they're trying to avoid those problems by trying to avoiding having endangered species on their property. ... Now it's important to recognize that all of these actions that landowners are either taking or threatening to take are not the result of malice towards the red-cockaded woodpecker, not the result of malice towards the environment. Rather, they're fairly rational decisions motivated by a desire to avoid potentially significant economic constraints. In short, they are really nothing more than a predictable response to the perverse incentives that sometimes accompany regulatory programs, not just the endangered species program but others. So that's point one, that the strategies that have been used to date to conserve this species, the red-cockaded woodpecker, on private lands have probably contributed to the loss of the ecosystem upon which that bird depends.

Similarly, Larry McKinney of Texas Parks and Wildlife Department recently stated:

I am convinced that more habitat for the black-capped vireo and especially the golden-cheeked warbler has been lost in those areas of Texas since the listing of those birds than would have been lost without the Endangered Species Act at all.

Clearly there is increased recognition that the Act is not only failing in some incentives but resulting in the opposite of what was intended.

Conclusion

Based upon the data available from USFWS, it is clear the Act has not yet produced the intended results and there is little evidence that the passage of more time, the expenditure of additional funds or more aggressive use of the same types of policies will change that. The

old way has been a failure for endangered species and for people. It has not led to the legitimate recovery of a single endangered species while costing billions of dollars and tremendous harm. The old way destroyed trust between people and our wildlife officials. We need to reestablish trust so that we can conserve wildlife – no program will succeed without the support of our farmers, our ranchers – of citizens. The old law failed because it is based on flawed ideas. It is founded on regulation and punishment. If you look at the actual law by section you see it is all about bureaucracy - consultation, permits, law enforcement ... there isn't even a section of the law called "conservation", "saving" or "recovery". It is a bureaucratic machine and its fruits are paperwork and court cases and fines – not conserved and recovered endangered species – what all Americans want to see.

The future of conservation lies in establishing an entirely new foundation for the conservation of endangered species – one based on the truism that if you want more of something you reward people for it not punish them. The debate that is unfolding here and before the public is one between methods of conservation. The old way is shackled to the idea that Washington bureaucrats can come up with a government solution through national land use control. Its supporters do not want to acknowledge that the law has failed because doing so would mean an end to the influence and power they have under the old system. The other promotes a new way that can actually help endangered species because it stops punishing people for providing habitat and encourages them to do so. It creates an opportunity for our officials – for government – to reestablish trust and work with and earn the support of citizens.

As many other government programs are finally facing long overdue scrutiny and the prospect of reform, it is most appropriate that this Committee review a law that has been a conservation failure for over two decades. I commend the Chairman and the Task Force Chairman for addressing this issue, for providing so many opportunities for interested and affected Americans to participate and for their dedication to promote reforms that are meaningful to both wildlife and people.

OPENING STATEMENT

MICHAEL T. CLEGG

Chair, Committee on Scientific Issues in the Endangered Species Act

**Public briefing to release the National Research Council report
*Science and the Endangered Species Act***

Thank you for joining us this morning for the release of this National Research Council study regarding the scientific aspects of the Endangered Species Act. The committee that my colleagues and I represent includes a wide spectrum of expertise in areas such as ecology, population biology, systematics, paleontology, wildlife management, law, decision analysis, and economics. We come from universities and private industry. Some of us have government experience. Our report is a consensus statement that reflects the range of our perspectives, and we all agree with its conclusions and recommendations.

Our study was initiated by the National Research Council nearly two and a half years ago in response to a bipartisan request from three congressional leaders — former House Speaker Thomas Foley, Senator Mark Hatfield, and Representative Gerry Studds. This was a most welcome request, because sound public policy often depends on sound science.

In broad terms, we were asked whether the Endangered Species Act conforms to contemporary scientific knowledge about habitat, risks to species, and identifying species, subspecies, and other biological groups below the species level. We also were asked to consider whether the Act conforms to what we know about the factors needed for recovery of endangered species, possible conservation conflicts between endangered species, and the timing of key decisions under the Act.

The 1973 Endangered Species Act and its amendments constitute the broadest and most powerful law in this nation to protect endangered species and their habitats. The survival of species such as the whooping crane, American peregrine falcon, southern sea otter, and black-footed ferret attests to the Act's success. But it is also a controversial law, particularly in cases where its implementation has delayed or prevented public and private development and other economic activities. Many of these conflicts have played out in the public-policy arena and in the courts.

The distinction between science and public policy is often fuzzy, because the possession of scientific knowledge and the implementation of that knowledge are so closely linked. But we have endeavored to restrict our advice to the scientific aspects of the Act. We were not asked to comment on the social and political decisions concerning the Act's goals and trade-offs, and have not done so. Nonetheless, we believe that some of our recommendations, if adopted, will improve the Act's implementation and will make some of the trade-offs easier to understand and resolve.

Since the Act was first passed, scientific knowledge has been anything but static. Our understanding of biological species, in terms of their genetic makeup and evolutionary heritage, has greatly expanded during the past two decades. A rich array of new experimental tools has been acquired from both genetics and computational biology and has helped drive a revolution in the study of the diversity of organisms and their natural relationships. Likewise, developments in conservation biology and population genetics have greatly increased the scientific

understanding of risk to endangered species. We believe that these new tools should be put to work to inform decisions associated with the Act.

Nevertheless, our committee finds that there has been a good match between science and the Endangered Species Act. Given new scientific knowledge, we simply recommend changes to improve the Act's effectiveness.

The ultimate goal of the Endangered Species Act is to ensure the long-term survival of a species. We all know that species extinctions have occurred since life has been on Earth. But the current rate of extinction is among the highest in the entire fossil record, in large part because of human activity. The introduction of non-native species and especially the degradation and loss of habitat are causing extinctions at a rate that many scientists consider a crisis.

The relationship between vanishing habitats and vanishing species nationwide is well documented. Consequently, protecting species in the wild most often means conserving the habitats where they live and breed. The Act's emphasis on protecting habitat reflects current scientific understanding of this crucial relationship.

We endorse the regionally based, negotiated approaches to the development of habitat conservation plans provided for by the 1982 amendments to the Act. Although difficult to negotiate, because they require agreement among many contending parties, such plans are already in use in several regions of the country to protect endangered and threatened species. The U.S. Fish and Wildlife Service should provide guidance on obtaining the necessary biological data and other information to help develop these plans.

The 1978 reauthorization of the Act requires the identification of "critical habitat" based on the best available science, after the consideration of economic and other relevant impacts. We realize that detailed information needed to designate critical habitat for a given species often is lacking. Just because a species occurs within a habitat does not necessarily mean that it requires that habitat for survival. To complicate matters, the absence of a species from a given habitat does not mean that the habitat is not critical to the survival of the species. These

uncertainties, combined with public concern over economic consequences, often make designating critical habitat both controversial and arduous. This can delay or even prevent protection.

To avoid such situations, we recommend that when a species is listed as endangered, a core amount of "survival habitat" should be protected as an emergency, stop-gap measure — without reference to economic impact. This survival habitat should be able to support either current populations or the population necessary to ensure short-term survival for a period of 25 to 50 years. When the required recovery plans are adopted or the required critical habitat is identified and designated, the survival-habitat designation should automatically expire.

Shrinking amounts of available habitat are creating conflicts between what is needed to protect different species in the same region, though such conflicts have been rare in the past. The most effective way to avoid conflicts is to maintain protected areas large enough to allow for the existence of diverse habitats within a single area.

There is no scientific reason that standards relating to protecting habitat and species should differ on public and private lands. As our report says, the degree to which public and private entities should bear the responsibilities of the Endangered Species Act is a policy and not a scientific matter. But there is no escaping the scientific conclusion that all species have certain requirements no matter who owns the habitats. Public and private landowners do not always respond in the same way to laws, regulations, and other incentives. As a result, regulations applied equally on both public and private lands might not provide the same degree of species protection. For this reason, different management policies may be required for them.

Our committee also was asked about the definition of species. The question of what constitutes a species under the Endangered Species Act can be difficult to answer, requiring scientific interpretations about subtle differences in the physical, genetic, or behavioral characteristics that distinguish subgroups within a species from one another. We believe that the Act's inclusion of these distinct population segments is scientifically sound and should be retained.

But to provide greater scientific objectivity in identifying these population segments, we recommend using the concept of "evolutionary units" that identify biological groups with distinctive behavioral and genetic characteristics, and that possess the potential for a distinct evolutionary future. By focusing attention on the important, distinctive attributes of organisms, the use of evolutionary units would provide policy-makers with an additional scientific basis for determining which groups of plants and animals merit protection.

The scientific identification of evolutionary units should be made independently from decisions about whether they need protection. What I mean by this is that although there may be persuasive reasons unrelated to science to protect certain plants and animals, there might not be scientific reasons for listing them as evolutionary units. For example, bald eagles in the lower 48 United States and in Canada intermix and are not biologically distinct, so there is no scientific justification for identifying the U.S. population as an evolutionary unit.

We believe that the recovery plans designed to achieve the goals of the Endangered Species Act often are developed too slowly or have provisions that cannot be justified scientifically. To ensure that these plans are effective, the U.S. Fish and Wildlife Service, which oversees each plan, should establish explicit guidelines for developing them. Species recovery plans should include as much guidance as possible concerning which human activities are likely to harm recovery and which are not, to enable people to plan economic activities. Also, for purposes of evaluation, plans should incorporate estimates of the probabilities of achieving various recovery goals over different periods of time.

The Endangered Species Act was not designed to carry out all of our country's conservation policies. More approaches need to be developed and implemented as complements to the Act to prevent the continued, accelerating loss of species and to reduce economic and social disruption and uncertainty. The Endangered Species Act by itself cannot prevent the loss of all species and their habitats, but should be viewed as one essential part of a comprehensive set of tools for protecting them.

Many federal, state, and local governments and private organizations are developing such approaches, including cooperative management strategies that involve shared decision-making among several government and non-government groups; the large-scale management of ecosystems and landscapes; the reconstruction or rehabilitation of damaged ecosystems, the development of mixed-use areas that provide for human activities as well as wildlife habitat; and the use of various market-based economic incentives.

In general, we hope that our recommendations can help make the implementation of the Act more effective at protecting endangered species, more predictable, and less disruptive for everyone. We believe that there is a common ground for a more enlightened and cooperative public conservation policy.

Thank you very much. I will now ask my colleagues to make a statement, and then we will be pleased to answer your questions. Please let us know who you are by stating your name and affiliation before you ask a question.

#

**STATEMENT OF
DR. WILLIAM Y. BROWN
RCG/HAGLER BAILLY, INC.**

**HEARING ON REAUTHORIZATION OF
THE ENDANGERED SPECIES ACT**

**BEFORE THE
ENDANGERED SPECIES ACT TASK FORCE
HOUSE RESOURCE COMMITTEE**

May 25, 1995

My testimony gives perspectives on the National Research Council report on Science and the Endangered Species Act (NRC Report), released on May 24th, and also comments on corporate biodiversity programs generally.

The NRC Report was initiated by a letter to the President of the National Academy of Sciences in November 1991 from Senator Mark Hatfield, Representative Tom Foley and Representative Gerry Studds. The letter requested a study of several issues related to the Endangered Species Act. Funding was provided by the U.S. Fish and Wildlife Service in September 1992, and the NRC convened the Committee on Scientific Issues in the Endangered Species Act (Committee) to prepare a report. I am a member of that Committee.

The November 1991 letter asked questions on six issues: definition of species; recovery planning; role of habitat conservation; conservation conflicts between

species; risk; and issues of timing. I will comment on the first three items here, and will try to answer questions on the others if you have them. The NRC report addresses each issue in detail.

The Species Concept

On the definition of species, the Committee recommended that the concept of the evolutionary unit or EU be adopted. As recommended, an EU is a group of organisms that “shares a common evolutionary lineage and contains the potential for a unique evolutionary future.” Most discussion was on how to define “distinct population segments” of vertebrates, which are eligible for listing under the ESA. The Committee members concluded that animals and plants generally will meet the definition of an EU if they have been described as species or subspecies in a conventional way. Furthermore, the Committee found no scientific basis for giving animals more protection than plants under the ESA.

Recovery Planning

The Committee was concerned that recovery planning under that ESA has been too slow, often done without consideration of how sections 7, 9 and 10 are to be implemented, and without realistic budgeting. Doing a better job would benefit all concerned. To this end, the NRC Report recommends that all recovery planning include “recovery plan guidance,” which addresses activities anticipated for review under sections 7, 9 and 10 of the ESA. To the degree possible, this guidance should

identify activities that can be assumed to be consistent with the requirements of those sections, activities that can be assumed to be inconsistent with them, and activities that require individual evaluation. The idea is to clear the deck of issues for which regulators already know, or should know, the answers.

Habitat and Conservation

The NRC Report observes that conservation of species diversity is directly associated with habitat conservation. It finds that habitat protection is a prerequisite for conservation of biological diversity and protection of endangered and threatened species, and that the ESA, in emphasizing habitat, reflects the current scientific understanding of the crucial biological role that habitat plays for species.

Beyond the Endangered Species Act

The NRC Report also concludes that the ESA cannot by itself prevent all species extinctions, and that additional approaches to natural resource management are needed that do not depend on listing individual species. These are essential to stopping endangered species "train wrecks." Many programs already exist for public land biodiversity management, and a few government programs support partnership conservation activities with the private sector. These private sector partnership programs are by invitation only from landowners and to my knowledge have been welcomed by them. The Task Force should note that at least one of them, the Fish and Wildlife Service Partners for Wildlife program, has been proposed for extinction

itself. This is exactly the kind of program that should be continued and enhanced if our country is to get beyond the important but last ditch triage of the ESA.

Many private sector biodiversity conservation efforts also are being undertaken by businesses entirely with their own money and without regulatory mandate. I played a significant role in setting up a biodiversity conservation program for one major company, which adopted a policy of "no net loss of wetlands or *other biological diversity*" on its properties worldwide. Recently I helped to organize workshops on corporate biodiversity programs involving more than 20 major companies. Most are implementing substantial programs to advance conservation of nature (including endangered species) on their properties. Many activities are not mandated by law. The ESA was not part of these workshops, and these firms differ in their opinions of the regulatory mechanisms of the statute. However I think it is safe to say that most, if not all, of the company participants recognized great value in animal and plant species, and accepted as a stewardship ethic the responsibility not to contribute to their extinction.

15105 Watergate Road
Silver Spring, MD 20905
14 March 1995

The Honorable Richard Pombo
Chair, ESA Task Force
c/o Elizabeth Megginson, Counsel
Committee on Resources
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Pombo:

I am writing in regard to the hearings your ESA Task Force is holding concerning reauthorization of the ENDANGERED SPECIES ACT. I respectfully ask that this letter and the appended materials be included as a part of the hearing record.

As a practicing biomedical scientist involved with the discovery of novel treatment modalities for human disease, I wish to make known to the Task Force my professional opinion that a strong, effective, well-funded Endangered Species Act is a requirement for the future health and well-being of Americans and all humans. The entire assemblage of species upon this earth represent a vast, largely untapped reservoir of knowledge and understanding which we cannot yet begin to comprehend. Human activities are driving more and more of these species to extinction. This cannot be permitted to continue for it will deprive future generations of knowledge which will be vital to their survival and quality of life.

I have heard often the argument that saving species costs too much and impairs economic development. My reply is that no one has any accurate conception of how much we benefit from species diversity. The fact is that we cannot afford not to save species!

I wish to illustrate this latter point first with a specific example from my own scientific work and then secondly with a more general example of how the field of biomedical research is impacted by the wealth of species in nature.

I am trained as an organic chemist (Ph.D.) and for the last three decades have performed chemical and biochemical research aimed at discovery of new approaches to the treatment and cure of human disease. I am presently Chief of the Section on Biomedical Chemistry in the Laboratory of Medicinal Chemistry in the National Institute of Diabetes and Digestive and Kidney Diseases at the National Institutes of Health in Bethesda, Md. I have published over 160 scientific papers, and serve as a member of the Board of Editors of two scientific journals. Of course, this entire letter represents my own personal scientific opinion and in no way relates to opinion and policy of the NIH.

For approximately 15 years, I have studied a little known mechanism found in reptiles, birds and mammals. This system, called 2-5A for short, is an early defense mechanism against virus infection. It acts even before the immune system can respond and so plays a vital role in controlling the spread of virus disease. This unique natural defense system has now yielded in our laboratory

a novel approach to the treatment of not only viral diseases, such as AIDS, but also potential approaches to cancer therapy, heart disease, and a host of other human maladies. The U.S. Government has applied for a patent based on our work with this 2-5A natural defense system, and also has licensed the patent rights to a start-up biotechnology company to pursue aggressively the full therapeutic potential of this new, nature-based, technology. (I include some relevant scientific papers in support of these points)

Now you can see what this one solitary clue supplied by a natural system is capable of doing. This natural system is providing us with new potential approaches to the treatment of a wide variety of human disease. In the process, it is creating jobs, and if fully realized, it will create a marketable product for the pharmaceutical industry. Yet there is no way that I or any other scientific investigator could have developed this technology without the information contained in nature! Nature remains the great provider.

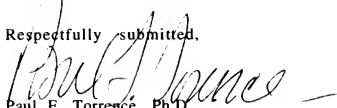
I want to call your ESA Task Force's attention to one of a large number of additional contributions of species diversity to the health and economic well-being of Americans. I refer here to the contribution of strange slimy creatures which have made possible the biotechnology revolution (see appended Table entitled "The Role of Biological Diversity in Biotechnology"). Among other things, the enzymes found in this wide variety of life forms have enabled the precise cutting of DNA, the stuff of genes, so that pieces of DNA can be recombined in new ways. Yet, three decades ago, someone surely could have asked "what good is *Enterobacter agglomerans* or *Kluyvers ascorbata*?" Only those who pretend the omniscience of God can dare to ask such questions.

The second table I have appended is entitled "Applications & Sales of Selected Biopharmaceuticals". This is by no means an exhaustive listing of those pharmaceuticals brought into production by application of the recombinant DNA technology made possible by many of the organisms referred to in the preceding table. Consider, Mr. Chairman, the relief of human suffering made possible by secrets from the diversity of life on earth. Consider, Mr. Chairman, the billions of dollars in sales generated thanks to the lowly fauna of Creation.

Mr. Chairman, government has always moved to prevent harm to the common good. Without a strong, vital, aggressive, and well-funded Endangered Species Act, our present society, intent on short-term gain, will irreparably harm the future physical health, quality of life, and economic well-being of not only the present generation, but it will even more severely circumscribe the choices, freedoms, and lives of unborn generations.

The Earth's diverse species, each and every one of them, provide a richness to humans only beginning to be appreciated. I implore you and your Task Force and the U.S. Congress to provide the strongest possible legislative framework to protect the fabric of all life, and in so doing, thereby safeguard the future of humankind.

Respectfully submitted,


Paul F. Torrence, Ph.D.

APPLICATIONS & SALES OF SELECTED BIOPHARMACEUTICALS

(sales in U. S. \$ millions)

PRODUCT	CLINICAL USE	SALES			
		1992		1997	
		USA	WORLD	USA	WORLD
Alpha-Interferon	hairy cell leukemia hepatitis B/C, Kaposi Sarcoma	135	565	290	1020
Beta-Interferon	multiple sclerosis	- - -	20	10	35
Erythropoietin	anemia	600	1225	910	1845
Factor VIII	hemophilia	140	235	270	445
Gamma-Interferon	chronic granulomatosis	15	25	35	45
G-CSF	cancer chemotherapy	295	405	550	870
GM-CSF	bone marrow transplants	50	70	155	305
Hepatitis B Vaccine 50	hepatitis	260	105	275	---
Human Growth Hormone	growth failure	270	575	225	660
Human Insulin	diabetes	245	625	405	1035
t-P A	clot-dissolution	180	230	85	120
TOTALS		2090	4080	3210	6380

The Role of Biological Diversity in Biotechnology

Enzyme	Organism	Source
Aci I	<i>Arthrobacter citreus</i>	Venice, FL, garden
Alw I	<i>Acinetobacter lwoffii</i>	Washington, D. C. soil
AlwN I	<i>Acinetobacter lwoffii</i> N	Maine lake
Asc I	<i>Arthrobacter</i> species	Moundsview, MN swamp
Bbs I	<i>Bacillus laterosporus</i>	soil
Bpm I	<i>Bacillus pumilis</i>	soil
BspH I	<i>Bacillus</i> species	Manchester, MA soil
BspM I	<i>Bacillus</i> species	Wenham, MA soil
Bsr I	<i>B. stearothermophilus</i>	Papua New Guinea soil
Eag I	<i>Enterobacter agglomerans</i>	Boulder, CO stream
Kas I	<i>Kluyvers ascorbata</i>	Keene, New Hampshire
Pac I	<i>Pseudomonas alcaligenes</i>	South Louisiana bayou
PfIM I	<i>Pseudomonas fluorescens</i>	West Chicago, IL soil
Ple I	<i>Pseudomonas lemoignei</i>	Washington, D. C.
Pme I	<i>Pseudomonas medicina</i>	Beverly, MA soil
Pml I	<i>Pseudomonas maltophila</i>	Southern Finland
PpuM I	<i>Pseudomonas putida</i>	W. Chicago wetlands
Xcm I	<i>Xanthomonas campestris</i>	Bahamas
Vent DNA polymerase	<i>Thermococcus litoralis</i>	submarine thermal vent Naples, Italy
Deep Vent DNA polymerase	<i>Pyrococcus</i> strain GB-D	Guaymas Basin Gulf of California

Source: Dr. Ira Schildkraut, New England Biolabs, Beverly, MA



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June 1, 1995

The Honorable Don Young
Chair
House Resources Committee
2331 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Young:

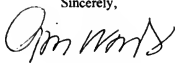
On behalf of the NATIONAL ASSOCIATION OF REALTORS® (NAR), I would like the attached testimony on the Endangered Species Act entered into the record for the hearings which were held in May of this year by the House Resources Committee.

The NATIONAL ASSOCIATION OF REALTORS® believes the way in which the Endangered Species Act (ESA) is implemented is of the major importance. We support the addition of amendments to the Threatened and Endangered Species Act that recognize socio-economic considerations and urge that compensation be required in cases where the value of private property has been unduly diminished or jeopardized by government action under the Act.

While the Association supports programs to enhance the environment, we believe that these programs should be conducted in a balanced manner. Planning for the classification and use of land must adequately consider the needs of housing, agricultural, commercial and industrial growth, as well as the quality of life and a healthy local economy.

Thank you for the opportunity to express our views.

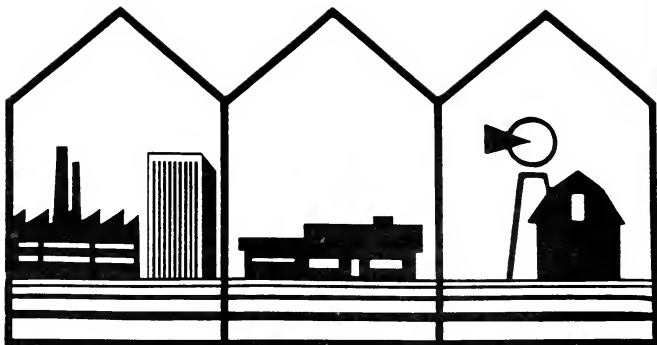
Sincerely,



Gill Woods, Jr.
President

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Statement of the
NATIONAL ASSOCIATION OF REALTORS®

The Voice for Real Estate™

THE WORLD'S LARGEST TRADE ASSOCIATION

SUBMITTED TO THE HOUSE COMMITTEE
ON RESOURCES
ON THE ENDANGERED SPECIES ACT

JUNE 1995

STATEMENT OF**THE NATIONAL ASSOCIATION OF REALTORS®****SUBMITTED TO THE HOUSE COMMITTEE ON RESOURCES****ON THE ENDANGERED SPECIES ACT****JUNE 1995****INTRODUCTION**

Thank you for the opportunity to submit the NATIONAL ASSOCIATION OF REALTORS'® comments for the record on the federal Endangered Species Act. The NATIONAL ASSOCIATION OF REALTORS®, comprised of nearly 750,000 members involved in all aspects of the real estate industry, has a keen interest in the Endangered Species Act and private property rights.

The Association believes that development should be encouraged as it is a stimulus to the economy, it increases the tax base, provides places to live and work, and offers opportunities that would not otherwise exist. However, we also realize the responsibility we have to educate and work with local, state, and federal government officials to develop responsible growth planning that is equitable and considers the divergent needs of transportation, housing, agriculture, commercial, industrial, and environmental concerns.

The NATIONAL ASSOCIATION OF REALTORS® believe the way in which the Endangered Species Act (ESA) is implemented is of the major importance. We support the addition of amendments to the Threatened and Endangered Species Act that recognize socio-economic considerations and urge that compensation be required in cases where

the value of private property has been unduly diminished by government action under the Act.

While the Association supports programs to enhance the environment, we believe that these programs should be conducted in a balanced manner. Planning for the classification and use of land must adequately consider the needs of housing, agricultural, commercial and industrial growth, as well as the quality of life and a healthy local economy.

NATIONAL ASSOCIATION OF REALTORS® ENDANGERED SPECIES POLICY CONCEPTS

Recognizing the extreme environmental significance of Endangered Species, the NATIONAL ASSOCIATION OF REALTORS® believes that any legislation or regulation should include the concepts as outlined as follows:

- Compensation to property owners whose land is adversely affected by implementation of any provision of the ESA.
- Use of incentives to private property owners for species protection rather than relying solely on restrictions and penalties.
- A strict limitation on how far down the chain of sub-species will be allowed in listings.
- A listing as threatened or endangered must be based on verifiable, scientific evidence.
- Provisions to protect private property rights and narrow the reach of the ESA on private lands, to include, but not limited to, notification of private property owner of potential listings which impact their property.

- Increase local involvement in creating and implementing recovery plans.
- Support for the concept of substantial equivalency for states that currently have adequate legislation.
- No implementation of a National Biological Survey of private property without express written permission of the property owner.
- Independent peer review committees should review both the scientific evidence and economic impacts of all listings.
- Periodic review and expedited delisting of species when supported by verifiable scientific evidence.

PRIVATE PROPERTY RIGHTS

NAR's concerns extend beyond the immediate interests of the real estate industry. Because this issue has a significant impact on private land, we also wish to direct attention to the larger issue of protecting private property rights.

The NATIONAL ASSOCIATION OF REALTORS® has worked for years to encourage a balanced approach to environmental protection that accommodates the important needs for both conservation as well as economic opportunity and vitality. To balance the efforts of government to serve the public well-being by controlling pollution and protecting natural resources with the economic and property rights secured by the Constitution, we believe that the cost of the benefits to the general public achieved by such regulation should be borne by the beneficiaries--the general public. We oppose those aspects of environmental and natural resource legislation that amount to uncompensated condemnation of private property through government

action. It is essential that the rights of private property owners be fully recognized in local, state, and federal programs and laws.

To that end, we urge the adoption of legislation which provides that the economic burdens associated with the protection of appropriate endangered species be borne by the public, rather than private landowners. Such legislation should further establish a means for landowners to be compensated when deprived of the right and opportunity to use their property in a productive fashion in order to further the end of species preservation.

ENDANGERED SPECIES IMPACTS ON HOUSING AFFORDABILITY

The impact of the Endangered Species Act on housing affordability and new construction varies widely throughout the nation. In some areas of the country the only impact is due to the increase in lumber prices attributable to the listing of the spotted owl. In other areas of the country multiple species listings can impact the development of a single piece of land. Because of variations in the impact of the Endangered Species Act, NAR's analysis of the impact on housing looks to three case studies.

CASE STUDY 1

Kit fox and Swainson's Hawk in San Joaquin County California

Cost per Housing Unit

kit fox survey required by the USFWS.	\$52.00
Swainson's Hawk habitat mitigation fees	237.00
Increase in traffic fee due to the implementation of the ESA on city, county and state projects (estimate)	500.00
Increase in sewer fee due to the implementation of the ESA on city sewer plant expansion (estimate)	150.00

Increase in water treatment fee due to the implementation of the ESA on city water plant expansion (estimate)	150.00
Increase in water supply fee due to the implementations of the ESA on city purchase of water rights (estimate)	300.00
Increase in storm drainage fee due to the implementation of the ESA on city storm drain system (estimate)	150.00
Increase in aggregate costs due to the implementation of kit fox mitigation on aggregate supplier (estimate)	25.00
Increase in lumber costs due to the implementation of spotted owl mitigation on lumber prices (estimate)	3,500.00
TOTAL:	\$5,064.00

CASE STUDY 2

Bald Eagle in Florida

	Cost per Housing Unit
Survey of plant and animal life (estimate)	\$50.00
Cost of land for mitigation around nest site and flyway to the water (estimate)	3,000.00
Increase in lumber costs due to the implementation of spotted owl mitigation on lumber prices (estimate)	3,500.00
TOTAL:	\$6,550.00

CASE STUDY 3

Golden-cheeked Warbler in Travis County Texas

	Cost per Housing Unit
Permit application fee	\$25.00
Golden-cheeked warbler conservation fund payment	1,500.00
Increase in lumber costs due to the implementation of spotted owl mitigation on lumber prices (estimate)	3,500.00
TOTAL:	\$5,025.00

Because of the localized impacts of endangered species regulations it is difficult to determine the impact on housing affordability. In some areas where only a small portion of the land is affected the cost may fall primarily on the landowner while the impact may fall primarily on land purchasers when the majority of the land is impacted. However increases in the price of housing due to higher lumber prices impact all homebuyers. The \$3,500 increase in the price of a median priced new

home due **solely** to lumber prices would reduce the number of households who would qualify for a mortgage on a median priced single family home by roughly 1.8 million, based on currently prevailing mortgage rates and standard underwriting criterion. In any given year only about 4.5 percent of the population purchase a home so roughly 80 thousand households would be priced out of the market. These numbers only consider the households that are priced out of the market due to payment constraints. Additional households would be priced out of the market due to the additional money required for the downpayment. These upfront costs often present a greater barrier to homeownership than monthly payments. This impact on homeownership would be even greater if job losses in the timber and construction industries are considered.

WATER RIGHTS

NAR's membership is very interested in the concept of water rights. It is our understanding that Congress may address this issue at some point. With that in mind, NAR's Water Rights policy is included for your review.

The central question to a debate of this issue is simply stated: What is the proper federal role in water resource management? The NATIONAL ASSOCIATION OF REALTORS® opposes water allocation legislation at the federal level which supersedes state law and interstate water compacts and which may result in takings of water property rights without compensation.

Water supply needs vary from state to state. Congress has traditionally deferred to the responsibility and expertise of the states for the allocation, administration, and use of water for residential, commercial, industrial, agricultural, municipal, recreational and aquatic life purposes. As a result, states have chosen their own water law systems in order to secure a stable and clean water supply to provide for

sufficient food, drinking water, economic productivity, recreation and aquatic life. An extensive intrastate and interstate water supply infrastructure has been established based upon these state water law principles.

We are concerned that federal initiatives to expand existing water pollution control programs in order to protect the ecological integrity of water bodies may go far beyond what is necessary to meet water quality needs. Overly restrictive requirements might impose economic burdens on landowners and industry perhaps without significantly improving water quality and in the process erode traditional state authority to determine land and water usage.

NATIONAL ASSOCIATION OF REALTORS® WATER POLICY

We support the wise use and management of our nation's water resources so that residential, commercial and industrial development, can proceed unencumbered in the future. States water rights and regional customs, as they have developed over the years, should be considered by all levels of government. We also recognize the importance of a well-developed infrastructure in ensuring adequate water quality and quantity.

CONCLUSION

NAR believes properly conducted programs of land preservation and historic preservation which attempt to protect aquifers, agricultural lands, wetlands, scenic vistas, natural areas, historic properties and open space may have a positive effect on the quality of life in towns, counties and municipalities. However, in establishing land use laws and regulations for the purpose of protecting these resources, the cost of the benefits of these programs to enhance our nation's resources should be paid for by the general public. Therefore, we believe that financial incentives should be developed for the protection of endangered species.

Current government real property acquisition practices have resulted in excessive amounts of private property being placed in the government estate. Federal property acquisition agencies have been authorized by Congress to acquire private property for parks, national forests, refuges and for other purposes, but have not been provided with the resources to promptly compensate landowners or adequately manage acquired lands.

The Fifth Amendment of the United States Constitution states that private property shall not be taken for public use without just compensation. This premise was one of the fundamental building tenets of our nation and it should remain so today.

The NATIONAL ASSOCIATION OF REALTORS® and the nation support an Endangered Species policy that is environmentally sensitive, yet allows our nation to be economically competitive.

Thank you for the opportunity to express our views.

WRITTEN TESTIMONY
SUBMITTED TO THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES
ENDANGERED SPECIES ACT TASK FORCE HEARING

STATEMENT BY:

W. Mike Howell, Ph.D.
Professor of Biology
Department of Biology
Samford University
Birmingham, AL 35229
Telephone (205)870-2943

MAY 25, 1995

TESTIMONY OF W. MIKE HOWELL, PH.D.

Chairman Pombo and distinguished Task Force members, it is my privilege to present testimony to you regarding scientific issues relevant to your consideration of possible revisions to the Endangered Species Act ("ESA"). Let me first establish for the Task Force my qualifications. I received the B.S. degree in Biology (1962), M. S. degree in Biology (1964), and Ph.D. degree in vertebrate zoology from the University of Alabama (1968). My major research field is Ichthyology. From 1972 to 1974, I was Assistant Professor of Ecology & Systematics, as well as Curator of the Fish Collection, at Cornell University. Excluding my time at Cornell University, I have taught in the Biology Department at Samford University from 1966 until the present, i. e., 28 years. In addition, I served as Head or Chair of the Department of Biology at Samford for 12 years. My professional specialties are in the areas of taxonomy, systematics, ichthyology, vertebrate zoology and cytogenetics. During my professional career, I have written and published more than 50 peer-reviewed scientific papers. I have discovered and described three fish species new to science, including the first federally-listed endangered fish species unique to Alabama, the watercress darter, Etheostoma nuchale, in 1965. In addition, to working closely with the U.S. Fish & Wildlife Service ("FWS") on other issues over the years, I worked with FWS as the Recovery Team Leader for the Watercress Darter from May 1976 until October 1982. For my work on the Recovery Plan for the Watercress Darter, I received a special commendation from FWS. Finally, I was a co-author of the first report on rare and endangered fishes in Alabama, in 1972, and several similar reports published subsequently.

In case the above discussion does not make the point clearly enough, let me emphasize for the Task Force that I am staunchly committed to the identification and protection of endangered and threatened species, as well as to general principles of conservation ecology. For example, during 1991, I received U. S. Patent Number 5,073,115 for the development of a special teaching-photographic tank in which students can place a live fish to study its taxonomy and characteristics without having to kill the fish by fixing it in formaldehyde. The fish is simply placed into the tank containing water from the fish's habitat. The structural design of the tank allows for the fish to be immobilized without harming it. The fish can then be studied by students and photographed before it is returned to its natural habitat unharmed. This tank grew out of nearly thirty years of my teaching ichthyology/vertebrate zoology to university students. It also grew out of my desire to save fish populations to be able to study them without the necessity of killing them in preservative solutions. Consequently, my opposition to the present way the ESA is applied is not based on a proactive "anti-green" philosophy. On the contrary, since 1976, I have been actively involved in FWS endangered and threatened listings of many fish species in the Southeast, particularly in Alabama. In most of those FWS proposals, I have supported the listing process. In my many years of active research and scientific study, I have actively opposed the proposed listing of only three species: the goldline darter, Percina aurolineata; the barrens topminnow, Fundulus julisia; and the Alabama sturgeon, Scaphirhynchus suttkusi. My reasons for opposing those listing proposals were: the goldline darter was shown not to be endangered based on my own field work in the Little Cahaba River in Alabama; the barrens topminnow, found in

Tennessee, can be raised prolifically in laboratory aquaria as proven by culture methods developed in our laboratories at Samford University; and the Alabama sturgeon, because I believe it is conspecific (i.e., the same species) with the shovelnose sturgeon, Scaphirhynchus platyrhynchus, which occurs abundantly in the Mississippi River basin.

The ESA Fails to Adequately Address and Assess Complex Biological and Taxonomic Issues

It is my opinion that the ESA fails to adequately address and assess the complexities of many important biological issues, especially those related to taxonomic decisions. For example, if an individual or group wants to block a proposed project or industrial activity, it is common knowledge that they will often begin searching for an endangered species in the area. If none are found, they may search out a "green" taxonomist to fabricate a "new species" or subspecies from an already existing, named species. For example, they may select a population or population segment which is isolated from the main segment of a larger, more widely-distributed population of the same species. Because peripherally isolated population segments may have been geographically isolated for many years, the gene frequencies may have shifted slightly, and the species' meristic and morphometric characters may be slightly different from those of the main population. In some cases, these minor taxonomic differences may even be statistically significant. However, this does not necessarily mean that the two populations represent either a distinct species, a subspecies, or even a distinct population segment. This is because statistically distinct populations occur within most populations of all wide-ranging species; and, as any good field biologist knows, taxonomic characters are also plastic and often change from year to year and from habitat to habitat. For example, it has been shown in a mosquitofish population inhabiting a large lake that the taxonomic characters and gene frequencies may be slightly different in groups of mosquitofish found from place to place within the same lake. Each tiny cove can contain mosquitofish which have statistically different body shapes from other groups within that same lake. Even the number of fin-rays or scales may be statistically different between groups (demes) of fishes inhabiting the same lake, but living in different coves and habitats. However, this does not mean that these statistically distinct groups represent biologically distinct species. Fish populations constantly expand and contract. Migration and immigration of stray fish into and out of various populations have an inhibitory effect on speciation.

Unfortunately, neither the ESA nor the FWS deals adequately with these complex biological issues. Indeed, seasoned taxonomists often have problems dealing with these same issues, and controversies arise even among different scientists. It is also unfortunate that some scientists will "discover" and describe a new species or subspecies simply because its taxonomic characters are statistically significantly different from those of the body of the main population. This is what the data indicate happened in the case of the so-called "Alabama sturgeon", Scaphirhynchus suttkusi. Presently, I, along with three co-authors, Dr. Paul Blanchard, Dr. Alfred Bartolucci, and Dr. Robert Angus, have a 65 page manuscript in review at the professional scientific journal, Environmental Biology of Fishes. If this peer-

reviewed paper is accepted for publication, it will appear in an upcoming issue dedicated to papers dealing mostly with sturgeon conservation and biodiversity. The idea for this special issue grew out of the International Conference on Sturgeon Biodiversity and Conservation, which met in New York City during June or July 1994. In our paper, we have presented detailed evidence that we believe shows the Alabama sturgeon is the same species as the shovelnose sturgeon, Scaphirhynchus platyrhynchus, which is abundant and widely-distributed throughout the Mississippi River basin from Montana to Ohio to New Orleans.

Indeed, for over 90 years, the shovelnose sturgeon, Scaphirhynchus platyrhynchus, has been known to occur within the Alabama River system. However, just four years ago, in 1991, two scientists named this peripherally isolated Alabama River basin population as a new species. The FWS immediately proposed to list it as endangered along with a proposed critical habitat designation involving many river miles on three rivers in Alabama and Mississippi. The proposed listing called for severe curtailment of river channel maintenance, gravel mining, dredging and hydropower production along the Alabama, Tombigbee and Cahaba rivers. This led to a head-on clash: the FWS versus the U. S. Corps of Engineers, state government agencies, and major Alabama and Mississippi businesses and industries. Despite hundreds of pages of scientific analysis and criticisms presented on the record regarding the validity of the designation of the Alabama sturgeon as a "new species", the FWS doggedly persisted for over three years in their efforts to list the fish in the face of overwhelming opposition from several reputable scientists, Alabama's and Mississippi's congressional delegations, seven southern governors, state government agencies, all major industries in Alabama, the U. S. Army Corps of Engineers, the Southeastern Power Administration, the U. S. Coast Guard, nearly all Alabama newspapers, thousands of Alabama citizens, and at least two scientists from the Department of Interior's own National Biological Survey, who performed DNA studies concluding that the Alabama sturgeon and the shovelnose sturgeon were genetically identical. Moreover, something in the ESA clearly needs to be changed when the FWS can use their unbridled discretion to try to prevent the gathering of additional scientific information that is crucial to the listing decision process. During December of 1993, in the middle of the listing process, FWS denied me and the Corps of Engineers scientists the opportunity to examine the only live Alabama sturgeon which had been captured since 1985, but allowed those scientists "friendly" to the FWS the opportunity to examine the fish and make counts, measurements, photographs and videotapes. Despite repeated requests, including those made by the Alabama congressional delegation, Corps of Engineers scientists and my colleague and I were not allowed to view the fish until eight days later, after the fish had died and was frozen. Even then, we were given only 15 minutes to make some 46 counts and measurements on the dead fish along with still photography, and we were even timed with a stopwatch.

Through a subsequent Freedom of Information Act (FOIA) request, we later received and read a copy of a draft final listing document on the Alabama sturgeon written by FWS biologist, Mr. Richard Biggins, located in Asheville, North Carolina. In that draft document, Mr. Biggins agreed with us that the Alabama sturgeon was conspecific (i. e., the same species) with the shovelnose sturgeon. However, for some reason, other higher level FWS personnel rejected his opinion and that draft final listing document never appeared

in the Federal Register.

Lack of Scientific Checks & Balances in the ESA

The ESA does not currently contain enough checks and balances. Many of the environmentally "green" taxonomists who describe "new species" by the unnecessary splitting of wide-ranging species into separate species or subspecies, submit their manuscripts to friendly "green" editors, who in turn pass the manuscripts on to friendly "green" peer-reviewers. Often, the entire cast of scientists involved in such a scenario either have received funding from, or are being presently funded, by the FWS to do various research or study projects or status reviews or surveys. I have known of a FWS field biologist who has actually encouraged some of the "green" taxonomists to describe a population just so FWS could list it as endangered. Unfortunately, a "good-old buddy" system has often existed between many so-called "independent" scientists and certain FWS officials. For example, out of the nine scientists selected by the FWS to form a panel to review the science on the Alabama sturgeon, at least eight of those scientists, or their laboratories, had received or were receiving funds from the FWS, and several of the nine scientists had already publicly committed themselves in the press and other newsmedia as supporting the listing of the Alabama sturgeon and the position of the FWS before they were selected for the panel. Despite numerous objections, the FWS forged ahead with their panel of admittedly biased scientists. In an effort to obtain a more balanced panel, the Alabama congressional delegation provided FWS with the names of several eminent scientists who had no prior connection with the Alabama sturgeon and who were recognized experts in this scientific area. However not a single one of those scientists was chosen by FWS to serve on the scientific review panel. To make matters worse, no one other than FWS officials were allowed to attend the closed-door meetings of the FWS-selected sturgeon review panel. How can the citizens of Alabama and Mississippi, business and industry, other federal and state governmental agencies and other interested and involved scientists have an opportunity to participate in a scientific review panel process such as this when the whole process, from beginning to end, can be controlled entirely by FWS and their friendly scientists? The ESA must be changed to ensure fair representation for all scientific viewpoints, without having to resort to redress in the courts.

The ESA and Inadequate Science

Based on my experience, many of the proposed endangered species listings are not based upon adequate science. Traditionally, there has been a poor fit between science and the proper implementation of the ESA. The FWS has historically had a tendency to vastly overstate the ecological impacts, which supposedly have resulted from and/or will be caused by myriads of human activities. For example, on August 3, 1994, the FWS proposed in the Federal Register to list five species of mussels as endangered and two as threatened in southeast Alabama and southwest Georgia. FWS' listing proposal stated that the, "Factors contributing to the habitat loss are: impoundments and deteriorating water and bottom habitat quality resulting from channel modification, siltation, agricultural runoff from crop monoculture and poultry farms, silviculture activities, mining activities, pollutants, poor land use practices, increased urbanization, and municipal and industrial waste discharges." Such an all-encompassing listing statement has the potential not only to affect navigation but also

the timber industry, gravel mining operations, all municipalities and industries along the waterway, farmers, poultry industry, flood control, hydroelectric power, and a host of other human activities. Under the ESA, as it currently exists, this kind of proposal can be published by FWS in the Federal Register often without a shred of scientific evidence to support such conclusions. In actuality, runoff from crop monoculture and poultry farms may even fertilize the water, stimulating bacterial and algal growth; and, these increased nutrients might even be good for mussel growth and reproduction. This is purely conjecture of course, but it is as valid as FWS blindly assuming that runoff from crop monoculture and poultry farms is always detrimental to mussels. **Who prevents the FWS from utilizing such woefully inadequate science?** The answer is: no one. The FWS has often adopted a "Chicken Little" approach in writing their listing regulations. Solid supporting science and the elimination of conjecture throughout all stages of the listing process are prerequisites to developing a good recovery plan and avoiding unnecessary adverse impacts of economic and human activities. Thorough, comprehensive, un-biased scientific peer review should be done by truly independent peer reviewers who have neither a vested interest in the species in question nor are dependent upon FWS dollars for their professional development and well-being. Congress should also require that in preparing listing proposals and final rules FWS must be specific about exactly what human activities are actually harmful to the species, and FWS should be required to document any alleged "harmful" impacts with solid, verifiable research data and literature citation. We realize there will never be "perfect science" and not always 100% complete scientific research, but that does not excuse the use of "shoddy science" or conjecture in the decision process, as I have seen FWS do on several occasions. I have reviewed many FWS proposed endangered species listings during my career--some with excellent documentation and validity, some with borderline merit, and some that were woefully inadequate from a scientific standpoint. My most recent and extensive involvement has been with FWS' proposal to list the Alabama sturgeon. A summary of our findings in that particular case are as follows:

1. The taxonomy was incomplete and insufficient to support an endangered listing;
2. The scientists involved misused the statistical data in the original description of the Alabama sturgeon to improperly designate it as a separate species;
3. FWS overstated the alleged adverse impacts of man's activities on the sturgeon; and,
4. FWS used conjecture rather than solid verifiable science to support its conclusions. For example, FWS said that a continuous minimum water flow of 3,000 cubic feet per second was needed for the Alabama sturgeon to survive. We questioned FWS about where they came up with the figure of "3,000 cubic feet per second". A FOIA request document ultimately showed the FWS had no data to support its conclusion, and they admitted that this flow rate requirement was merely their "best guess" for what the fish might need.

The ESA should be changed to prevent FWS from using such "best guess" procedures. Conjecture is not adequate in our modern world where field data are cheaper to obtain than unnecessarily spawning a fight of the magnitude of the Alabama sturgeon controversy, which cost industry and government hundreds of thousands of dollars to challenge.

Recommendations to Remedy Specific ESA Problems

1. Ensure that solid independently verifiable scientific data, including DNA analysis, is used in original species descriptions;
2. Ensure that species status reviews and surveys are also based on accurate independently verifiable scientific information;
3. Ensure that representatives from other government agencies, business and industries which might be impacted by an endangered species listing are guaranteed an opportunity to participate in the listing process from the time of "candidacy" or a "petition to list" is submitted to FWS until the final decision on the listing proposal is made;
4. Enlist the services of truly unbiased and independent scientists to review the overall listing process and require them to present their peer reviews to other interested scientists and representatives from state and local governments, affected businesses and industries, as well as FWS before the final decision on the listing proposal is made;
5. Ensure that the FWS no longer relies on science produced by the "good-old buddy" system that just happens to have been peer-reviewed. For example, there are several described species whose names were published in peer-reviewed journals; however, those are no longer recognized by taxonomists as being separate species even though those species have not yet been officially synonymized;
6. Develop a more iron-clad, more specific definition of "species"; and,
7. Provide a process whereby scientific questions (especially questionable data being used by FWS), could be subjected to and adjudicated by some higher authority or panel to inject fairness and "due process".

Conclusion

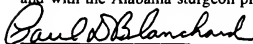
It is obvious that the ESA should be changed to ensure that independently verifiable scientific data is used in listing decisions and in the development of species recovery plans.

I would like to express my appreciation for the opportunity to present this testimony. I would be happy to supplement this testimony if the Task Force so desires.



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I have reviewed the above testimony and based on my experience as a professional biologist and with the Alabama sturgeon proposal, I concur with Dr. Howell's testimony.



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WRITTEN TESTIMONY
SUBMITTED TO THE
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES
ENDANGERED SPECIES ACT TASK FORCE HEARING

SUBMITTED BY
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May 25, 1995

TESTIMONY OF
DR. TERRY D. RICHARDSON
AND
DR. PAUL YOKLEY, JR.

Mr. Chairman and distinguished Committee Members, it is a privilege to present to you our professional views on the Endangered Species Act of 1973, as amended, and its current application.

Terry Richardson is an Aquatic Ecologist, Director of the Rare and/or Endangered Species Research Center, and Assistant Professor of Biology at the University of North Alabama located at Florence, Alabama. Paul Yokley, Jr. is a malacologist, retired Professor of Biology (also from the University of North Alabama) and founder of the Rare and/or Endangered Species Research Center at the University of North Alabama. As a routine part of our professional endeavors, we are continually involved with activities related to the preservation of rare, threatened or endangered species. We work closely with federal, state and private agencies on issues of endangered species recovery, relocation, surveys, habitat assessment, and proposed listings. As such, we are familiar with the implementation of the Endangered Species Act by the U.S. Fish and Wildlife Service and the U.S. Department of the Interior. We are presenting this testimony in order that our cumulative experience, as well as our professional opinions, may be considered by this committee during its review of the Endangered Species Act.

While all parties involved believe that preservation of species and habitat is a high priority, the perceived inequities of the Endangered Species Act have placed the Act under intense scrutiny by the industrial and private sectors. Industries are concerned with land and waterway application issues, and management and maintenance costs encountered when species are listed. Similarly, private landholders are concerned with how listing species limits their rights of ownership and land usage.

The numerous proposals submitted by the U.S. Fish and Wildlife Service to list species under the Endangered Species Act and the concomitant recovery plans have become the focus of listing issues primarily because of their potential economic impacts. As cases-in-point, we cite the concerns surrounding the two recent proposals for listing the so-called Alabama sturgeon and the listing of seven mussels in the Apalachicola Region.

There are two critical issues we find in need of examination in any review of the current Endangered Species Act. First is the lack of an independent peer-review process for U.S. Fish and Wildlife Service's listing proposals. Second is the recovery planning process for listed species.

Because listing species under the Endangered Species Act is predicated on using the "... best scientific and commercial data available" and because listings are to be "... as accurate and as effective as possible," we are concerned that the Endangered Species Act does not currently address the scientific review of status surveys and the ensuing proposals upon which

species listings are based. Because these scientific reports are used to implement law, their preparation and, more importantly, their review should be explicitly governed by language in the Endangered Species Act.

The scientific community as a whole has a rigorous peer-review process through which all published scientific works, large or small, must pass. While there are numerous versions of this process, all share a common procedure. First, manuscripts are prepared that contain an introduction to the study, a detailed materials and methodology section, a results section providing readers with essential summary data sufficient to judge the scientific validity of conclusions, a discussion of the author's conclusions regarding the data, and a bibliography. Next, the completed manuscript is submitted to a senior editor who is typically not associated with the author's institution. The editor will then select two or more anonymous expert reviewers to critically examine the document for accuracy, adherence to sound scientific practices and ethics, and validity of results and conclusions. The reviewers' comments and conclusions are sent back to the senior editor who, with the benefit of all reviews, will make a decision regarding the publication status of the manuscript. Very often scientific works are rejected for publication, because they do not satisfy the standards of the reviewers and review process. Some works, however, will be accepted for publication, but only after the author addresses some specific concerns of the reviewers and editor.

The scientific community has voluntarily subjected itself to such a rigorous set of checks and balances to ensure that only the best, most accurate and reliable scientific information will be released for general use and application. The U.S. Fish and Wildlife Service, however, is not required to submit their listing proposals and status surveys to the peer-review process under the current Endangered Species Act. This inadequacy is compounded when one considers that the results of the U.S. Fish and Wildlife Service's activities can take on the force of law with serious environmental and economic consequences.

The current process of publishing proposals in the Federal Register and inviting comments from interested parties is inadequate at best and does not address the issue of having a peer-review process in place to ensure good and accurate science. Most of the reviews a proposal receives are by other U.S. Fish and Wildlife Service personnel, and such internal "friendly" reviews are often subject to bias. Also, independent external experts who are qualified to review a listing proposal rarely read the Federal Register; consequently, they are not aware of the proposals that appear there. Furthermore, for those scientists who are aware of listing proposals in the Federal Register, there is often not enough detail on methodology or inadequate data provided in the published proposal to give a reviewer sufficient information to judge the scientific merit and soundness of the proposal. As a case-in-point, we again refer to the Service's proposal to list seven mussels as threatened or endangered in the Apalachicola Region published in the August 3, 1994 Federal Register. Information critical to assessing the validity of the proposed listing was simply not available in the Federal Register document. Finally, because the published proposal is the document used by the Secretary of the Interior to make a decision on the listing, the request for comments comes at the wrong stage of the process. To ensure that only the best available scientific data are used to make a decision on

listing, the peer-review process should come before the proposal is published in the Federal Register. Essentially, it is the status survey upon which a proposal is based that should be subjected to a vigorous independent peer review.

Currently, when the U.S. Fish and Wildlife Service does request review of a status survey, it is distributed among fellow federal agencies and a handful of other interested persons. The Fish and Wildlife Service has also recently adopted a policy of seeking comments from experts when a proposal encounters substantial scientific criticism. However, even this recent change is solely voluntary on the part of the Service and is not required under the current Endangered Species Act. In addition, the active solicitation of reviews and comments comes only after sufficient questions have been raised concerning the science upon which the proposal was based. Again, we refer to the proposed listing of seven mussels in the Apalachicola Region. Requests for external review by experts of the science were not made until January 3, 1995, fully five months after the proposal appeared in the Federal Register and over one month after the public comment period was originally scheduled to close. This is not acting within either the spirit or intent of the scientific peer-review process. The current practice of the U.S. Fish and Wildlife Service requesting reviews after the proposal has been published is clearly a case of putting the proverbial cart before the horse. Because of this, much of the U.S. Fish and Wildlife Service's work is being met increasingly with skepticism and criticism from not only the industrial and private sectors, but the scientific community as well.

Concerns about the proposal process are compounded by current internal editorial practices of the U.S. Fish and Wildlife Service. Draft proposals submitted for publication in the Federal Register are subjected to editorial changes in content and scientific conclusions without the author's consent or knowledge. In the proposal to list the seven mussels in the Apalachicola Region, there is documentation in the record that the U.S. Fish and Wildlife Service's internal editors made substantial changes and deletions to text in the draft proposal. The result of those editorial changes subsequently appeared in the Federal Register without the author's knowledge or approval. Those editorial revisions altered the scientific conclusions drawn by the author. Such a practice is unheard of in the scientific community. This type of editorial license used within the U.S. Fish and Wildlife Service is scientifically unacceptable and verges on being unethical. Taking such liberties with editing when the author's consent has not been sought and when no peer-review process is in place only serves to exacerbate growing criticisms and skepticism of the listing process.

It is our professional opinion that any revision of the Endangered Species Act should include a mandatory, external, independent, and anonymous peer review of both the status survey and the listing proposal. This process should be rigorous and require standards that would meet with the approval of the scientific community as a whole. Furthermore, the status survey document should conform to the same basic content requirements as other scientific manuscripts. In addition, the Service should not make any substantial changes to a draft proposal submitted for publication in the Federal Register without first obtaining the author's approval.

By requiring such a process, all parties involved in a listing proposal would benefit. The U.S. Fish and Wildlife Service would receive valuable input and criticism from outside scientists which could be used continually to improve their scientific efforts. The Service would also benefit by meeting with fewer challenges once the proposal has been published. Industrial and private concerns would profit by having only the best, rigorously scrutinized scientific data used in preparing a proposal for listing. Both the economy and the environment would gain by ensuring that species that are threatened or endangered are indeed listed while at the same time validating that only those truly in need of protection are listed. Finally, taxpayers would benefit from having in place a process of checks and balances that makes those conducting the science accountable to the scientific community for their activities.

Also of critical concern to us are the recovery plans for listed species currently required by the Endangered Species Act. These plans, when implemented through Section 7 consultations or Section 10 habitat conservation plans, often require substantial financial input and/or sacrifice from those who own, control or utilize the habitat. As a result, recovery plans, in essence, are nothing more than unfunded federal mandates applied via the Endangered Species Act. It is ultimately left up to the state and local taxpayers, and industrial and private concerns to cover the costs of recovery plan implementation.

Most species are proposed for listing with no recovery plan in place or even proposed. In some instances there is insufficient information on the biology of the proposed plant or animal to allow adequate recovery plans to be drawn up. As a case in point, we again refer to the Apalachicola Region proposed mussel listing. By the U.S. Fish and Wildlife Service's own admission, little is known about the life cycle and reproduction biology of the seven mussels which have been proposed for listing. Noted scientific experts in the field, however, are in agreement on the futility of conservation efforts without this type of essential biological information.

Species are also routinely listed for which the recovery plan amounts to little more than a preservation or subsistence measure. Too little time, effort, research, and money is available during the critical period following listing to truly implement recovery of the species. Listing a species without concomitantly and quickly implementing a realistic, knowledgeable recovery plan doesn't really benefit the species. Little can be gained by listing a species if we are simply prolonging the inevitable--especially when economic hardship accompanies the listing.

It is our belief that any revision of the Endangered Species Act should include required, comprehensive, federally-funded, recovery plans and/or studies, as needed, if a species is to be listed as threatened or endangered under the Endangered Species Act. Such studies and plans should include a listed species' specific requirements for recovery, conclude whether or not a species will ultimately recover if the proposed recovery plan is implemented, and specify what steps are necessary to implement such a successful recovery. Only by providing sufficient funding can we guarantee that true recovery of a protected species will be realized, along with the preservation of biological diversity as is the true intent and spirit of the Endangered Species Act. Such a revision would benefit the U.S. Fish and Wildlife Service and the environment by

ensuring adequate levels of funding to implement successful recovery of a listed species. Industry and state and local economies would benefit not only from having species preservation and recovery, but also from not having to shoulder the financial burden of recovery plan implementation.

We believe that the preservation and protection of species is required to maintain biological diversity for both posterity's sake and for ecological stability. We believe, however, that the Endangered Species Act, as written, suffers from a lack of checks and balances, and from insufficient follow-through on species recovery. Addressing these areas as the Endangered Species Act is revised will serve only to strengthen the integrity of the Act and ensure that the Act's intentions are fully met. It will serve favorably all parties involved in the listing of a species as threatened or endangered under the Act--from the U.S. Department of the Interior, environmentalists and scientists, to local taxpayers, businesses, industries and landowners.

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OFFICE OF THE SECRETARY
Washington, D.C. 20240

Honorable Richard Pombo
Chairman
Endangered Species Act Task Force
Committee on Resources
U.S. House of Representatives
Washington, D.C. 20515

JUL 28 1995

Dear Chairman Pombo:

This responds to your May 31, 1995, letter requesting answers to questions regarding the Endangered Species Act for the consideration of the Committee on Resources. A reiteration of the questions and our answers are enclosed. You also requested the names of several individuals involved in the peer review process of the listing of the fairy shrimp. Their names and affiliations are:

Dr. Marie Simovich	Professor at University of California in San Diego
Dr. Richard Brusca	San Diego Natural History Museum
Dr. Bob Holland	Independent consultant - World recognized vernal pool specialist
Jamie King	Doctoral graduate student at University of California at Davis
Dr. Denton Belk	Adjunct Professor of Biology at Our Lady of the Lakes University at San Antonio, Texas

All five reviewed the proposed rule for the listing and provided comments that were incorporated into the final rule.

If I can provide any additional assistance, please contact me again.

Sincerely,

George T. Frampton

George T. Frampton, Jr.
Assistant Secretary for
Fish and Wildlife and
Parks

Enclosure

Questions for the Honorable Bruce Babbitt, Secretary, U.S. Department of Interior from the Honorable Richard Pombo, Chairman, Endangered Species Act Task Force.

QUESTION 1. We have observed as we have conducted our hearings throughout the country that the Endangered Species Act has not been implemented uniformly and consistently on a national basis. Have you made an effort to insure that your Department's policies are consistently implemented so that every region is treated the same?

ANSWER: The Service has always strived to uniformly and consistently implement the Endangered Species Act (Act) on a National basis. The circumstances that involve the biological needs of one or more listed species in conjunction with specific projects often require new solutions, and this may lead to the perception that the Service's implementation of the Act is not consistent or uniform.

However, the Service also realizes it is essential that the Act be consistently and uniformly implemented. To that end, the Service, in conjunction with the National Marine Fisheries Service, has many guidance documents under development for use on a national basis. These include the following:

- o Draft Petition Management Guidance - under the Act, any citizen has the right to petition the Service to list or de-list species. This working draft guidance would ensure that petitions are considered in a uniform and consistent manner throughout the Nation.
- o Draft Candidate Assessment Guidance - working draft guidance on how the Service will assess candidate species is being tested in all offices with listing responsibilities.
- o Listing guidance - the second edition of this guidance was finalized last year and is being used throughout the Service to ensure that listing decisions are made based on sound scientific and commercial data.
- o Draft Vertebrate Population Policy - provides the Service's definition of a "distinct population segment of any species of vertebrate fish or wildlife" for the purposes of listing, delisting, and reclassifying species.
- o Draft Interagency Consultation Guidance - would ensure that the Section 7 consultation process will be implemented in a consistent fashion among all agencies and nation-wide.
- o Recovery Planning and Coordination Guidance - provides a process for the development of recovery plans, establishment of recovery targets or goals, and the implementation of recovery tasks.
- o Draft Habitat Conservation Planning Guidance - would ensure that applicants for Section 10(a)(1)(B) permits, the permits that result from the Habitat Conservation

Planning process, will be treated in a consistent and uniform manner by all Service offices and the process will be streamlined to the greatest extent possible.

In addition, the Service is now working under a number of policies that were finalized with the National Marine Fisheries Service (NMFS) in 1994. These joint policies detail how the Service will work in closer partnership with the States, when and how the Service will seek peer review of appropriate activities, how the Service will ensure the best scientific and commercial data are used when making decisions, how the Service will minimize social and economic impacts in recovery planning through broad participation and how the Service will endeavor to use an ecosystem approach in endangered species activities. In addition, a July 1994 policy stipulated that the Service will, to the extent practicable, at the time a species is listed, identify activities that would or would not likely constitute illegal take under the Act.

More recently, a policy was developed that ensured private landowners will be treated equally and fairly when entering into Habitat Conservation Planning agreements with the Service. This "No Surprises" policy helps ensure that once landowners have signed an agreement, the Service will not require additional land or financial compensation in the future.

Finally, the Administration's package of improvements to carry out the Endangered Species Act, often called the "Ten Point Plan," will ensure that the Act is implemented in a fair, efficient, and scientifically sound manner. These improvements build on the existing law to provide effective conservation of threatened and endangered species and fairness to people through innovative, cooperative, and comprehensive approaches.

QUESTION 2. Many citizens have described to us a Fish and Wildlife Service that is rude, arrogant, unresponsive, indecisive, unfair, and overreaching. How can an individual citizen who feels that they have been mistreated seek redress within your agency?

Answer: The Service always endeavors to treat all citizens in a fair and courteous manner. Any person who feels they have been treated in a less than fair or courteous manner should request the name and phone number of the Field Supervisor or Regional Director and explain the problem to that person. The appropriate management personnel will review the situation and ensure that no Service employee has acted in a less than professional manner.

QUESTION 3. There have been many criticisms raised about the credibility of the listing process. Please provide the committee with a concise description of the listing process, including: (a) how it works, (b) how decisions are made, (c) the timing of decisions, (d) who makes decisions, (e) what decisions include public input, (f) what data used in making the decision is available to the public and what is not, (g) what individuals or groups are consulted, and (h) what avenues are available for appeal of listing decisions by those who support the listing and those who oppose it.

Answer:

How are species listed? A species is proposed for addition to the endangered or threatened species lists through publication of a proposed rulemaking in the Federal Register; comments are solicited from the general public (typically a 60-day comment period). In addition, to ensure that the specific public that may be affected or may have special interest in the proposal (e.g., landowners in the geographic area of the species) are aware of the action, notifications are published in local newspapers and, possibly, announcements are made through other media. Specific landowners may be personally contacted by the Service. Any member of the public may request a public hearing. Also, in accordance with Service policy, peer review of the proposal is requested from at least three individuals. The Service takes very seriously its obligation to base decisions under the Act on the best scientific information available, recognizing that our knowledge of the natural world is incomplete, and that research adds to our knowledge base.

After the Service analyzes public input and all available scientific and commercial information, the final rulemaking (as proposed or revised) or notice of withdrawal of the proposal is published in the Federal Register, within one year of publication of the proposed rule.

Usually, species are recommended for listing or de-listing, with supporting information, at the field office level; the biology is reviewed and conformity to Service policy is checked at the Regional Office; and national consistency is approved and biological factors substantiated in the Washington Office. The Director of the Service makes the final decision on proposed and final listing of species, except in certain cases (e.g., critical habitat) where the Assistant Secretary for Fish and Wildlife and Parks has signature authority.

Selecting candidates for listing: Species are selected by the Service for proposed listing from a list of candidate species. The Service develops candidate lists from petitions, Service and other agency surveys, and other biological field studies, reports, and publications.

Species to be listed in a given year are basically selected from among those recognized as Category 1 candidates in accordance with the Service's listing priority system. Category 1 candidates are those for which the Service has substantial information on biology and threats to support the proposal to list. Under the priority system, species facing the greatest threat are assigned highest priority. Other criteria account for the immediacy of the threat and the genetic distinctness of the species as reflected by the taxonomic level at which it is recognized. For example, a species with a high magnitude of threat, imminent immediacy of threat, and where representing a monotypic genus, would be assigned a priority ranking of "1" (the highest priority for listing). Conversely, a species with moderate to low degree of threat of a non-imminent nature at the subspecific taxonomic rank would be assigned a priority of "12" (the lowest priority).

Petition process: Anyone may petition the Service to list, delist, or reclassify a species to endangered or threatened. Within 90 days of receiving a petition, the Service must make a finding as to whether the petition presents substantial information that listing and delisting may be warranted. A notice of the finding is published in the Federal Register. If a positive finding is made, the Service must initiate a review of the status of the species (e.g., review of literature, communication with experts, and review information in Service files).

Within 1 year of receipt of a petition for which a positive 90-day finding is made, a finding is required as to whether the petitioned action is warranted or not warranted. A finding of warranted must lead to a proposed listing within 30 days, under Service policy, unless the Service finds that immediate proposal is precluded by higher priority listing activities. In order to make a warranted but precluded finding, the Service must also show expeditious progress in its overall listing program (e.g., candidates of higher priority are being treated first). Any warranted but precluded finding must be re-examined on each successive anniversary of the petition's receipt until the species is proposed or the petition is found to be not warranted.

Between 1990 and 1993, the Service received a total of 206 petitions to list U.S. species. As of March 1995, findings had been made for 183 of these as follows: 141 (77%) were turned down at either the 90-day or 12-month stage; 42 (23%) were found to warrant listing.

Negative 90-day findings, not warranted findings, and warranted but precluded findings are subject to judicial review. Individuals may challenge listing decisions for alleged substantive or procedural violations of section 4, or by filing suit against the Service or Department of the Interior for failure to meet the statutory time-frames of the Endangered Species Act.

Criteria for listing: A species warrants protection under the Act if it meets the definition of either "endangered" or "threatened" in the Act. An "endangered" species is one that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is one that is likely to become "endangered" within the foreseeable future throughout all or a significant portion of its range. The following factors are considered when assessing whether a species is endangered or threatened:

- the present or threatened destruction, modification, or curtailment of its habitat or range;
- over-utilization for commercial, recreational, scientific, or educational purposes;
- disease or predation;
- the inadequacy of existing regulatory mechanisms; or
- other natural or man-made factors affecting its continued existence.

By law, listing decisions must be based solely on the best available scientific and commercial (trade) data.

How affected interests are involved in the listing process?

As part of the listing process, the Service's regional and field offices are responsible for contacting involved or affected local, State, and Federal agencies, affected or interested conservation or industry groups, and biologists or scientific groups interested in and/or knowledgeable about particular species. The Service also makes efforts to contact any potentially affected landowners. Contact with interested or knowledgeable parties is generally initiated at the time a Service field office begins to prepare a proposed rule. This pre-proposal coordination is intended to (1) advise parties that the Service is considering taking a particular regulatory action, and (2) request information.

Once a proposed rule is published, the Service issues news releases and special mailings--sometimes to hundreds of parties--directly informing the scientific community, Federal and State agencies, and major landowners. The Service also publishes a summary of the proposal as a legal notice in newspapers serving each area in which the species is believed to occur. Where public interest is great, or when requested (within 45 days of proposed rule publication), the Service holds public hearings. Information received at public hearings and during the public comment period is analyzed and considered in the final rulemaking process.

QUESTION 4: There have been criticisms that mistakes are sometimes made in listing a species that should not qualify for listing and correcting that mistake is extremely difficult. Please outline those steps you take to insure that mistakes are not made, to correct mistakes when they are made and the process for delisting, including:

- (a) how delisting decisions are made,
- (b) who makes the delisting decisions,
- (c) the timing of delisting decisions,
- (d) what delisting decisions include public input,
- (e) what data used in the decision is available to the public and what is not,
- (f) what individuals or groups are consulted, and
- (g) what avenues are available for appeal of delisting decisions by those who support the delisting and those who oppose it.

Answer: A species is removed from the Lists of Endangered and Threatened Wildlife and Plants if the Service substantiates that it is neither endangered nor threatened. Removal must be supported by the best scientific and commercial data available after conducting a thorough status review of the species. Delisting can occur if the data support that the species is not endangered or threatened due to:

- * extinction of the species;
- * recovery of the species to the point where it no longer needs the protection of the Act; or
- * new data or reinterpretation of the data which indicates that the classification was made in error.

The Service generally waits for a period of time before removing a species from the list if it is suspected of being extinct. This leaves protections in place in case additional populations are found. Species feared to be extinct that were later rediscovered include the black-footed ferret and the Palos Verdes blue butterfly. Most of the species that were delisted due to extinction are believed to have become extinct before they were protected under the Act.

The principal goal of the Service in implementing the Act is to return listed species to a point where protection is no longer required. After listing, recovery plans are developed. Many of these plans contain specific goals for the species that can trigger reclassification to threatened status, or delisting.

When making a listing decision the Service uses the best scientific and commercial data available. However, the Service is open to new information as it becomes available. New populations may be discovered or issues may arise about taxonomy. In a few cases, this new information has been sufficient to de-list a species.

Whatever the reason for delisting, the process is similar to the listing process (see response to question number 3). A proposed rule for delisting is developed by a regional or field office. If approved by the Director, this proposed rule is published in the Federal Register. Public comment on the proposal is requested and peer review is requested by at least three individuals. After reviewing the status of the species, conferring with the States and others, and thoroughly reviewing comments on the proposal, the Service may prepare a final rule to de-list the species. The Director of the Service makes the final decision on delisting, but the process includes the public, the States, other agencies, and all levels of the Service. Comments on the proposal--both supporting and opposing--are addressed in the final decision document (final rule or withdrawal notice) which is also published in the Federal Register.

The proposed and final rules summarize the data used for determinations. A bibliography of the studies referenced is included in the rule or, if lengthy, is available upon request. The administrative record upon which listing and delisting decisions are made is available for public review in the appropriate field, regional, or Washington, D.C. offices.

There are ample opportunities to provide input into the process by commenting and/or requesting a public hearing. The public can also provide its opinion through the petition process by petitioning the Service to de-list or to relist a delisted species if they provide significant new information.

As of March 31, 1995, seven species had been delisted because they are deemed extinct, seven had been delisted due to recovery, and eight had been delisted because current information indicates the classification was made in error. Certain populations of the gray whale and the brown pelican also have been delisted. The American alligator, although recovered, remains on the "similarity of appearance" list to facilitate law enforcement for endangered crocodilians such as the American crocodile.

QUESTION 5. What role does peer review currently play in insuring the integrity of scientific decisions that must be made by the Department of the Interior? Does the Department have any recommendations for improving the peer review process in future legislation?

Answer: The Service makes it standard practice to subject Service decisions to independent expert review. Decisions on information regarding a species' range, abundance, status, and threats that may be present are made subsequent to either formal or informal review by experts in the field. Often these experts are employed by colleges or universities, work for other Federal or State agencies, or may be working in some other Division within the Service. Likewise, a wide range of experts are consulted when writing Recovery Plans for species. Specialists are usually consulted on complex Section 7 biological consultations, to ensure that the best information on species' natural history is known. Many consultations involve areas of science outside of the Service's expertise - such as the operation of dams to maintain constant water discharge rates - and specialists in these specific areas are constantly polled for information and opinions.

To reinforce the consistent manner in which the Service seeks peer review of decisions, the Service issued a July 1994 policy that specifically addresses the issue. Independent peer reviewers should be selected from the academic and scientific community, Tribal and other native American groups, Federal and State agencies, and the private sector. The joint Service and National Marine Fisheries Service policy makes the following points.

- o In listing, the Service will solicit the expert opinions of at least three appropriate and independent specialists regarding pertinent scientific or commercial data and assumptions relating to taxonomy, population models, and supportive biological and ecological information for species being considered for listing.
- o In recovery, the Service will use the expertise of and actively solicit independent peer review to obtain all available scientific and commercial information from appropriate local, State and Federal agencies, Tribal governments, academic and scientific groups and individuals, and any other party that may possess pertinent information during the development of draft recovery plans for listed animal and plant species.

Where appropriate, the Service will use independent peer review to review pertinent scientific data relating to the selection or implementation of specialized recovery tasks or similar topics in draft or approved recovery plans for listed species.

- o In special circumstances, specific questions may be raised that require additional review prior to a final decision (e.g., scientific disagreement to the extent that leads the Service to make a 6-month extension of the statutory rulemaking period). The Services will determine when a

special independent peer review process is necessary and will select the individuals responsible for the review.

QUESTION 6. How does the Department insure that there is no conflict of interest or economic self enrichment by those who propose species for listing? Does the Department have any rule or policy with regard to the payment of federal funds for further study of listed species to the individual or group proposing the species for listing?

Answer: Section 4(b)(3) of the Endangered Species Act of 1973, as amended (ESA), allows any interested individual to petition the Fish and Wildlife Service (Service) or NMFS, as appropriate, to list, de-list, or reclassify species, or to revise a listed species' critical habitat. On the average, the Service receives 35 to 40 petitions annually, to amend the lists of threatened and endangered species. However, it is the Service's broader candidate assessment process that sets the Service's listing priorities, not the petition process.

In response to an earlier inquiry from the Committee on Interior and Insular Affairs, the General Accounting Office (GAO) examined the issue of granting funds to perform studies associated with the listing of plant and animal species. Of the 222 contracts for studying endangered species that were examined, 38 contracts were awarded to study species for which petitions had been submitted. However, there was only one instance in which the petitioner was associated with a Service contract award (1992 GAO Report). In many instances, the petitioner is either the leading authority on a particular plant or animal species or has the latest available scientific information.

There are also Departmental certifications that are applicable to federal grants and cooperative agreements that must be completed by the recipient of such a grant. Grants cannot be awarded to an individual if there is a conflict of interest.

QUESTION 7. Does the Department have a position on whether the Act should continue to allow the listing of a subspecies or distinct population segment?

Answer: The Department believes that to accomplish one of the primary purposes of the Act (that is, to provide a program for the conservation of threatened and endangered species) the ability to list subspecies and populations must be retained. It is vital that the genetic diversity of threatened and endangered species and the geographic distribution of taxa be conserved.

Species are often comprised of smaller groupings - e.g. subspecies or populations. These components may be genetically distinct within the species, and improve the ability of the species as a whole to survive in response to environmental stresses and long-term change. The more genetically diverse a species, the greater the probability that the species will be able to adapt and survive.

Should a subspecies begin to decline, this may be a warning that the species as a whole may be in danger. Early recognition of such a trend greatly increases the probability that recovery can be achieved while usually minimizing the cost. The ability to

list subspecies and distinct vertebrate population segments provides the Department with a valuable tool that allows recovery actions to begin before the species rangewide is in trouble. It will also provide an opportunity to recognize that certain populations of an endangered species may merit classification as threatened or perhaps merit delisting a result of conservation measures that reduce or eliminate threats in those portions of the species range. The authority to list populations allows the Secretary to identify the conservation status of each population thereby avoiding the need to overregulate activities for populations that are not endangered.

Lastly, there is strong public support for recognizing and affording special protection for groupings below the species level. For example, bald eagles are protected as threatened in the lower 48 States. Gray wolves and grizzly bears are listed in the lower 48 States, but not in Alaska. This allows appropriate protection and conservation where it is needed without overly regulating the animals where their populations are healthy.

QUESTION 8. Should economic consequences of listing be considered during the listing process?

Answer: Designation of a species as endangered or threatened is a biological determination, not an economic one. Once a species is biologically determined to be in danger, economic evaluations on how to most efficiently bring about recovery are then appropriate.

It is difficult, if not impossible, to determine the monetary "worth" of a species. A species that may be aesthetically worthless to one person may be beyond value to another. Also, a species that may seem to be of little economic value may, in the future, be found to have incredible worth. A good example is the Pacific yew tree. In the past, this Pacific Northwest tree was discarded as nearly worthless wood. However, it has recently been found to contain chemicals of extremely high value in treating certain types of cancers.

Species are the building blocks that create ecosystems, and ecosystems are essential in maintaining an inhabitable Earth. Losing species has been compared to pulling the rivets from an aircraft; if you pull enough rivets, at some point the aircraft will no longer function. No one can determine what may be the ultimate cost of losing a species.

The appropriate time to consider economic consequences is when the actions needed to recover species are being planned and evaluated. It is then prudent to select recovery actions that are economically efficient as well as effective in meeting recovery goals. Brought into this equation are factors affecting local economies, community needs, and other societal concerns.

QUESTION 9. Does the Department support or oppose judicial review of decisions to list or not list species?

Answer: The Department believes that listing decisions should be made by Service administrators based on the recommendations of professional biologists evaluating the best scientific and

commercial data available. The Department makes listing decisions based on the five threat factors set forth in the Act. Determining the status of a plant or animal species and evaluating the threats to the species is a decision that must be based on a biological evaluation. Should a listing decision undergo judicial review, the biological rationale for our decisions should be clear and defensible.

QUESTION 10. What role does designation of critical habitat as provided in Section 4 of the Act play in protecting species and what restrictions are placed on land, both public and private, when a designation of critical habitat includes either public or private land, or both?

Answer: Clearly, species require habitat for survival and recovery. The Act requires the Secretary to designate critical habitat to the maximum extent prudent and determinable concurrently with listing a species. In determining what areas are critical habitat, the Service considers those physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection--such as areas for shelter, breeding, feeding, and population growth.

Although critical habitat may be designated on private or State lands, activities on these lands are not affected by the designation unless a Federal permit or other Federal authorization or funding is involved. It does not have regulatory implications for private activities that are directly or indirectly connected with Federal funding or Federal permitting, licensing, or other authorization.

With regard to federal agencies, the Endangered Species Act regulations require agencies to consult with the Service on actions they plan to take that may affect listed species or designated critical habitat. Therefore, if a Federal agency plans, for instance, to dredge a river or issue timber leases in an area designated as critical habitat, it must first discuss the project with the Service. Because the law prohibits Federal actions that would adversely modify a species' critical habitat, the agency and the Service would attempt to develop a reasonable and prudent alternative. However, depending upon the species and its particular habitat needs, many activities can be undertaken within critical habitat without significantly impacting the characteristics of the habitat essential to the species.

Designating critical habitat also assists private, State, and Federal agencies in planning future actions, since the designation identifies those habitats that will be given special consideration in section 7 consultations. With the designation of critical habitat, potential conflicts between projects and endangered or threatened species can be identified and possibly avoided early in the agency's planning process.

Unlike listing determinations, where only science may be considered, the Act requires that socio-economic considerations be factored into critical habitat designations. In the course of the critical habitat designation process, the Service must conduct an economic analysis that estimates how the designation

may affect Federal lands, as well as non-Federal activities authorized or funded by Federal agencies. Economic impacts associated with listing or other related statutes are not included in the analysis. The draft analysis isolates the incremental economic and conservation effects of the critical habitat designation. Economic effects are measured by evaluating factors such as changes in national income, regional jobs, and household income. Certain areas may be excluded from the critical habitat designation if the economic benefits of exclusion outweigh the benefits of including the area. Such areas cannot be excluded if their exclusion would result in extinction of the species.

QUESTION 11: When the Fish and Wildlife Service consults with the Corps of Engineers in the issuance of a 404 permit covering property where a listed species might be present, the Fish and Wildlife Service has been requiring mitigation in various forms. (A) What legal authority allows the Fish and Wildlife Service to require mitigation?

Answer: Under the ESA, Corps of Engineers' permits are subject to the consultation provisions of section 7. Those provisions require the Corps to ensure that the permitted actions are not likely to jeopardize the listed species (section 7(a)(2)), and that anticipated incidental take be minimized (section 7(b)(4)). If the project is not likely to jeopardize the continued existence of a listed wildlife species, but some individuals of the species are expected to be taken incidental to the activity, then the Service is not only authorized but required under section 7(b)(4) of the Act to specify reasonable and prudent measures and terms and conditions that are needed to minimize the impacts of such incidental take.

The Service encourages other federal agencies to review their actions as early as possible in the planning process so that endangered species conflicts can be identified, avoided or remedied at minimum or no cost and with a maximum benefit for the species involved. The Service assists federal agencies in this process through informal consultation. If however, a project is likely to jeopardize the continued existence of a species then the Service will work with the federal action agency to identify reasonable and prudent alternatives to avoid jeopardy.

For impacts to species and habitats not subject to the requirements of the ESA, the Service may also include mitigation recommendations pursuant to the Fish and Wildlife Coordination Act (FWCA). Under the FWCA, agencies proposing to construct or authorize projects affecting water resources are required to consult with the Service, and the Service is obligated to provide its recommendations on fish and wildlife resources. However, these recommendations, if provided, are not binding on the action agency. In the case of a Corps 404 permit, the Corps is required only to give Service recommendations full consideration as a part of the Corps' public interest determination for the permit.

QUESTION 11(B): What are the criteria for the types and amounts of mitigation that the Fish and Wildlife Service requires?

Answer: The amount and nature of the incidental take terms and conditions depend upon the nature and amount of the impact to the species, the particular features of the proposed project, and how similar projects in the area are being handled. The consultation regulations require that such terms and conditions involve only minor changes that do not alter the basic design, location, scope, duration, or timing of the action. (50 CFR, 402.14(i)(2))

For species and habitats not subject to the requirements of the ESA, the Service may also provide recommendations consistent with the guidelines set forth in its Mitigation Policy (46 FR 7644). The Mitigation Policy establishes a framework for developing recommendations on mitigating impacts to fish and wildlife based on the affected habitat's scarcity or abundance, and the value of that habitat to particular species.

QUESTION 12. At what point and in what form should jobs, economic concerns, and impacts on private property be considered in protecting species under ESA?

Answer: The ESA currently calls for use of the "best scientific and commercial data available" in listing and many other biological decisions; specific provisions for economic considerations exist for critical habitat determinations. However, concerns for the needs of affected parties also enter into many deliberations. For example, during section 7 consultation, after determining the biological needs of a species that is likely to be jeopardized by a project as originally designed, the Service works with the Federal agency and applicant to determine whether there are alternative ways of proceeding with a modified project that avoid jeopardy. Section 7 requires the Service to identify reasonable and prudent alternatives, if available, under the regulations such alternatives must be economically and technically feasible. Similarly, under the guidance for enhancing participation on recovery planning, the Service seeks increased stakeholder involvement in the development and implementation of these plans and is required to minimize social and economic impacts under this guidance. Incidental take permits are based on habitat conservation plans developed by the affected parties, and consider both the biology and socioeconomic effect on the parties. Many of these actions are not dictated by ESA, but are applied as a matter of sound public policy.

The key to successful implementation of the ESA and the recovery of listed species that is its primary goal is an appreciation that without the cooperation and support of the general public, little progress can be maintained. With that in mind, we strive to keep the impacts on those affected to the minimum necessary to meet the biological requirements of the ESA. Accordingly, we attempt to fully consider the impact of our actions on the public and reduce adverse impacts where possible.

QUESTION 13: In almost every case where there is a conflict between species protection and resource users, the conflict has usually started as a lawsuit filed by an environmental organization under the civilian suit provisions of the Endangered Species Act. Does the department have a position on the citizen

suit section and what can be done to insure that public policy is driven by good science and public consensus rather than lawsuits?

Answer: We disagree with the premise that "in almost every case where there is a conflict between species protection and resource users, the conflict has usually started as a lawsuit." In the large majority of cases where there are such conflicts, they are settled at the local level (between Fish and Wildlife Service field offices and the affected parties). For example, it is the Service's policy to resolve resource-development conflicts as early as possible in the planning stages to allow flexibility for solutions before options are foreclosed. When such conflicts are resolved early, they do not become "issues;" successful negotiations rarely make the news. To illustrate the point, a five-year General Accounting Office survey of all Federal actions involving listed species reviewed by the Service determined that only 0.1% were blocked due to listed species concerns.

The position of the Department of the Interior (and the Service) is to use the best scientific and commercial information available and to uphold the law as expressed in the Act. The Act, in itself, represents public consensus as expressed by Congress. On July 1, 1994, the Departments of Interior and Commerce jointly published policy statements relative to the Act. Among these policies are:

- A requirement for peer review of scientific data in listing and recovery activities. This is intended to complement current public review processes.

- Criteria setting information standards under the Act, establishing procedures and providing guidance to ensure that decisions represent established scientific standards based on the best scientific and commercial data available.

- Expanded public participation in recovery planning and implementation.

Citizen suit provisions in the Act aid in ensuring that good science is considered to the fullest extent possible. However, tighter staffing and funding constraints in future years may complicate the Service's ability to handle increasing regulatory workloads, as well as defend an expanding docket of citizen suites.

QUESTION 14. Are the Department's new "Safe Harbor" policies lawsuit proof?

Answer: No public policy is "lawsuit proof" these days, but the Service and private landowners have every reason to believe that "Safe Harbor" will prove to be a precedent-setting and successful program. The Department will vigorously defend any challenges filed against it or against participating landowners.

QUESTION 15: How would the Department increase the role of the states in ESA decision making?

Answer: Last July, the Administration issued policy calling for Federal agencies to encourage greater participation by the States

- in the conservation of candidate species;
- by soliciting the states' expertise in listing decisions and determinations of recovery requirements. The states already provide leadership and expertise in many recovery planning and implementation efforts, and we encourage them to increase this role;
- by acting as an important source of scientific data for section 7 consultations;
- by offering the states the opportunity to participate in incidental take permit programs; and
- by encouraging coordination between the states for shared species and ecosystems by seeking appropriate levels of funding for conservation programs under section 6 of ESA.

In addition, the Administration has proposed in the March 1995 10 point plan the following changes that Congress could make to increase the role of states in ESA decision making:

- Require the Secretary to concur with a state conservation agreement and suspend the consequences under the ESA that would otherwise result from a final decision to list a species if a state has approved a conservation agreement and the Secretary determines that it will remove the threats to the species and promote its recovery within the state. Suspension of the consequences of listing a species pursuant to an approved state conservation agreement should be permitted at any point before or after a final listing decision.

- Require that special consideration be given to State scientific knowledge and information. Petitions would be sent to each affected State fish and wildlife agency. Require the Secretary to accept a State's recommendation if it recommends against proposing a species for listing or de-listing unless the Secretary finds, after conducting independent scientific peer review, that listing is required under the provisions of the ESA.

- Provide States the opportunity to assume lead responsibility for developing recovery plans and any component implementation agreements. Establish mechanisms to ensure participation by and coordination with each affected state in the development of the recovery plan.

- Authorize appropriate State agencies, as well as the Secretaries of Interior and Commerce, to enter into voluntary pre-listing agreements with cooperating landowners to provide assurances that further conservation measures would not be required of the landowners should a species subsequently be listed.

- Provide a State with the opportunity to assume responsibility for issuing permits under section 10(a)(2) for

areas within a State which have been identified for such assumption in an approved recovery plan or for which there is otherwise an approved comprehensive, habitat-based state program.

QUESTION 16. What is the Department's position on compensation for property owners when their property is used as habitat for wildlife? What is your position on the compensation provisions of H.R. 925 as passed by the House of Representatives?

Answer: The Service supports compensation to landowners if their property is "taken" by federal regulatory action in accordance with the Supreme Court's interpretation of the requirements of the Fifth Amendment. H.R. 925 as passed by the House goes far beyond any court interpretation of the requirements of the Fifth Amendment, by requiring compensation whenever an ESA-related action lowers the value of even a portion of a property by 20% or more. The Service strongly opposes H.R. 925.

The Department believes that, if enacted, H.R. 925 would spawn litigation that could significantly affect how the Service administers many ESA programs. Effects of the bill would be especially injurious for species with significant portions of their ranges on private lands.

The bill could affect how the government acquires lands for wildlife purposes. Currently, the Service uses a Land Acquisition Priority System to identify high priority acquisition targets. This bill could force purchase of lands with less-than-ideal qualifications and in an unplanned and uncoordinated fashion. Furthermore, such lands might present a management burden if they lack significant long-term wildlife values or are in inconvenient locations.

Budgetary impacts of this bill would be significant. Potential costs include costs of compensation payments, land acquisition costs, and costs of administering lands acquired. However, it is difficult to accurately predict fiscal impacts given the lack of specifics in how requirements of the bill would be administered and the many uncertainties associated with how the law would actually work in real-world circumstances.

In lieu of this approach, the Administration promoted ten principles to guide the Administration's effort for reforming and implementing the Endangered Species Act. Among these, the Administration will ensure that ESA will be implemented in a manner minimizing the social and economic impacts; that landowners will be treated fairly and with consideration; that incentives for landowners to conserve species will be created; and that effective use of limited public and private resources will be accomplished by focusing on groups of species that depend on similar habitats. For example, on July 20, 1995, the Service published a proposed rule exempting certain small landowners and low impact activities from Endangered Species Act requirements for threatened species. It proposes to exempt such activities that are presumed to individually or cumulatively have little or no lasting effect on the likelihood of survival and recovery of threatened species and, therefore, have only minor or negligible

adverse effects. In particular, the following activities would not be regulated under this proposal:

- o activities on tracts of land occupied by a single household and used solely for residential purposes;
- o one-time activities that affect 5 acres or less of contiguous property if that property was acquired prior to the date the species was listed; and
- o activities which are identified as posing negligible impacts to listed species.

QUESTION 17: During the consultation process, what procedures are available to the public to obtain and have input into biological assessments?

Answer: Biological assessments are prepared by the agency proposing the action. The assessments list and analyze expected impacts on listed and proposed species. The development of an assessment is frequently governed by the administrative procedures of the agency. Often, NEPA requires public input during scoping, proposed action development, and final preferred alternative selection. It is at these stages that the public may have access to the process. Of course, if the Federal action involves a permit, then the permittee has full access to the process.

QUESTION 18: Provide the committee with information on the amount of federal funds expended to implement the President's Forest Plan in the Pacific Northwest, including all funds for job retraining and for funds to state and local governments to replace payments in lieu of taxes.

Answer:

Figures (\$ '000) enacted for Interior agencies for fiscal year 1995:

-"Jobs in the Woods"	
Bureau of Land Management	11,977
Fish and Wildlife Service	3,513
Bureau of Indian Affairs	2,595
Subtotal	18,085
-Forest Plan Implementation	
Bureau of Land Management	20,810
Fish and Wildlife Service	12,227
Bureau of Indian Affairs	3,660
National Park Service	136
Subtotal	36,833
-Timber Program	
Bureau of Indian Affairs	<u>1,497</u>
TOTAL, DEPARTMENT OF	
THE INTERIOR	56,415

QUESTION 19. What is the total acreage in the United States available for habitat on federal lands? The total in the lower 48 states? Break down the numbers as to classification?

Answer: The breakdown by Federal agencies is as follows.

<u>Agency</u>	<u>Estimated Total Million Acres</u>
Bureau of Land Management	268.5
U.S. Forest Service	219.1
Fish and Wildlife Service	92.0
National Park Service	74.9
Department of Defense	25.0
Corps of Engineers	11.5
Bureau of Reclamation	7.8
Bureau of Indian Affairs	2.7
Department of Energy	2.4
Other Civil Agencies	1.3
Tennessee Valley Authority	1.0
Agricultural Research Service	0.4
NASA	0.3
Department of Transportation	0.1

TOTAL 706.0

An additional 51.8 million acres are Tribal Trust Lands. However, it should be noted that these estimates are for lands in Federal ownership, not estimates of areas that could provide habitat for plant and animals.

QUESTION 20 (A): Does the Act currently allow the Fish and Wildlife Service to choose the recovery plan for the species that has the least cost and the least impact on jobs and the economy?

Answer: The ESA requires the development of a recovery plan that will meet the recovery needs of the species. After ensuring that level of support to the species, the Fish and Wildlife Service is not constrained in determining the best alternative way to achieve that recovery. For example, in determining how to accomplish habitat protection for the species the Service has traditionally sought to secure agreements or easements before seeking fee acquisition, which could affect local ownership and tax base relationships. On July 1, 1994, the Departments of the Interior and Commerce announced their joint policy establishing guidelines for recovery planning, expanding the constituency of recovery teams to include State agencies, private individuals and organizations, and other stakeholders that are affected by recovery planning and implementation. The policy and guidance require efforts to minimize social and economic impacts consistent with timely recovery of listed species.

QUESTION 20(B): How do economic issues currently affect the choice of recovery options?

Answer: The Fish and Wildlife Service has learned that decisions to retain part of a resource base for maintenance and recovery of a listed species may actually affect consideration and decisions between competing job and economic interests. Pursuant to the Administration's July policy, guidelines are being drafted to

activities

Brown pelican

Reduction of pesticide/contaminants
and improved habitat conservation
measures

Gray whale

Natural recovery following
cessation of commercial whaling

QUESTION: How many northern spotted owls presently live in the Pacific northwest?

ANSWER: There was no estimate of population size of northern spotted owls made at the time of listing of the species, and no historical estimate is available. Counts of owls observed each year have been conducted since listing, but they are not estimates of population size. The USDI Northern Spotted Owl Recovery Team indicated that spotted owls were known to be located at approximately 4,600 sites on all land ownerships between 1987 and 1991. Option 9 states that the actual population is undoubtedly larger because a portion of the range had yet to be surveyed. For the 4(d) rule, this count of known sites was updated to approximately 5,600. This "increase" from 4,600 to 5,600 sites simply reflects an increase survey effort, but still is not a population estimate. The number of known owl sites does not give an indication of status, rather population trend (demographic) studies and habitat trends are the best indication of the status of the owl population. Demographic studies at the time of listing and at present continue to suggest a declining population.

QUESTION: How many owls would you say are necessary to ensure the survival of the species?

ANSWER: No goal based on population size (i.e. actual number of individuals) has been put forward. The recovery goal is to maintain or establish a stable or increasing population over time, as determined from demographic studies. In a previously unpublished draft recovery plan, the owl population must remain stable or increasing for at least 8 years, as indicated by density and demographic estimates, to be considered for delisting. Analyses also must indicate that the population is not likely to need the protections of the Endangered Species Act within the foreseeable future. Ultimately, the question of delisting hinges on long-term stability and viability of the population and threats to the population rather than specific owl numbers.



Facts about the Endangered Species Act



(Rev. June/July 1995)

Facts about the Endangered Species Act

- I. Endangered Species Act At A Glance
- II. Endangered Species Act Success Stories
- III. Endangered Species Act: The Rest of the Story

Endangered Species Act At A Glance

Number of Listed Species (as of April 30, 1995)

- U.S. species—956
- Foreign species—560
- Total— 1,516 (Dual status species are counted only once)
- Of U.S. species, 430 species are animals. 526 are plants.
- Of the listed U.S. species, 759 are "endangered," 203 are "threatened." Six U.S. listed animals have dual status.
- The list includes mammals, birds, reptiles, amphibians, fishes, snails, clams, crustaceans, insects, arachnids, and plants. Groups with the most listed species are (in order) plants, birds, fishes, mammals, and bivalves.
- An "endangered" species is one that is in danger of extinction. A "threatened" species is one likely to become endangered. Both receive the same protection, but there is more management flexibility and a possibility for permitting regulated "taking" of threatened species.

Recovery

- 513 (54 percent of listed U.S. species) are covered by approved recovery plans.
- 232 additional species have draft recovery plans.
- As reported in the 1992 Report to Congress, nearly 40 percent of listed species are stable or improving.

- The status of 27 percent of species is unknown, primarily because of budget and staffing constraints within the Fish and Wildlife Service.
- 2 percent of listed species are believed extinct. The Service has been conservative in removing possibly-extinct species from the list because of the chance they might be rediscovered, as recently occurred with the Palos Verde blue butterfly in California.
- These statistics should be considered in light of the fact that many species have been added to the list only within the last few years

Budget

Congressional appropriations for the Fish and Wildlife Service's endangered species program:

FY 95—\$83.3 million*

FY 94—\$67.5 million*

FY 93—\$45.8 million

FY 92—\$42.3 million

FY 91—\$32.0 million

FY 90—\$24.3 million

Numbers of Listings per Year

- The Fish and Wildlife Service is committed to propose for listing about 100 species per year through 1996 under a 1992 court settlement with the Fund for Animals and other environmental groups.
- Listings by year since the settlement:
FY 93–92; FY 94–105; FY 95–77 (to 2/28/95).
- Previous listings by fiscal year:

1967.....78	1981.....5
1970.....243	1982.....7
1971.....80	1983.....23
1972.....9	1984.....45
1973.....21	1985.....57
1974.....0	1986.....52
1975.....12	1987.....52
1976.....166	1988.....54
1977.....46	1989.....35
1978.....39	1990.....46
1979.....34	1991.....53
1980.....56	1992.....93

Proposed and Candidate Species

- 106 candidate species are currently proposed for listing.
- 293 candidate species are listed as “category 1” candidate species. These are taxa for which the Service has sufficient information to support a listing proposal, but which have not been proposed because of other work priorities.

- 3,698 are listed as “category 2” candidate species. These are taxa for which additional information is needed to support a proposal to list. It is likely that many species on category 2 will be found not to warrant listing.

Habitat Conservation Plans

- The Endangered Species Act provides for “habitat conservation plans” (HCP) to give flexibility to private landowners who have listed species on their property.
- Under an “HCP,” the landowner receives a permit that allows “incidental take” of listed species in the course of certain activities, such as development, provided that the landowner follows certain other steps to provide for conservation of the species.
- This Administration is making greater use of HCP’s than did previous Administrations. There are currently about 73 approved HCP’s and more than 170 in development.
- HCP’s often work better for large landowners (such as timber companies and other corporations) than for owners of very small tracts of private land, but some HCP’s have been negotiated with small landowners.

Endangered Species Act Success Stories

Virginia: Clinch River Riparian Restoration

Nearly 10 miles of fencing and several alternative water supply structures have been installed on private land along the Clinch River and its tributaries in southwest Virginia in an attempt to eliminate streambank erosion from overgrazing and trampling of endangered fresh water mussels by cattle. Both the fencing and the water structures were financed jointly by the U.S. Fish and Wildlife Service, The Nature Conservancy, the Natural Resource Conservation Service and included contributions from private landowners. The U.S. Fish and Wildlife Service has worked cooperatively with The Nature Conservancy and the U.S. Department of Agriculture to implement this program. Approximately a dozen landowners have agreed to modify their cattle management practices to eliminate the trampling of mussel beds and to improve water quality for the mussels by nutrient and sediment reduction. More farmers are expected to join this program.

Contact:

- Spence Conley, Public Affairs, Region 5
413-253-8325
- Martha and Thomas Mewdome, private citizens
703-479-3057

Montana: Gray Wolf

In 1993, a pair of gray wolves established a territory along the Rocky Mountain East Front. The territory encompassed four ranches as well as state and federal land, and meetings were held with the affected land owners and three federal agencies. The wolves denned in the middle of a cattle pasture and the rancher was provided with an incentive payment of \$5,000 by Defenders of Wildlife for having wolf pups produced on his property. The

U.S. Fish and Wildlife Service initiated a study in cooperation with the U.S. Forest Service, Montana Department of Fish, Wildlife and Parks and the ranchers, to evaluate the wolf population. Funding for the study was provided by the Bureau of Land Management, Boone & Crockett Club and Wolf Haven International. Ranchers actively assisted with capture and radio collaring of two wolf pups and reporting wolf observations. Two yearling wolves were relocated in April, 1994, due to live-stock depredation, but none of the cooperating parties requested removal of the wolf pack. The wolves produced at least three pups in April, 1994, at the same den site as in 1993 and continue to use the ranches as about half of their territory.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904
- A. Dood, ES Coordinator, Montana Department
of Fish, Wildlife and Parks
406-994-6433

Montana: Private Property and Eagle Nesting

Louisiana-Pacific Corp. owns land adjacent to Nevada Lake where an active bald eagle nest occurs. The corporation was aware of the bald eagle nest and the potential to displace the eagles due to proposed logging operations. The corporation contacted the Montana Field Office of the U.S. Fish and Wildlife Service and arranged a meeting to schedule and coordinate logging operations. Agreements were reached on the timing and type of logging, and monitoring after the logging was completed confirmed successful nesting by the pair of eagles.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904

Idaho, Montana, Wyoming: Gray Wolf Reintroduction

After nearly two years, 120 public meetings, hearings and open houses, and consideration of 170,000 public comments, the U.S. Fish and Wildlife Service produced a final Environmental Impact Statement with a recommendation to establish "non-essential, experimental" populations of wolves in two release areas, which comprise parts of Idaho, Montana and Wyoming, including Yellowstone National Park. The "non-essential, experimental" designation allows flexible management of reintroduced animals under a special provision of the Endangered Species Act, which gives the Service the option of implementing special rules to address the concerns of local residents. The Service subsequently established guidelines which allow federal agencies, the states, tribes and landowners to take action, when necessary, to protect livestock or deal with problem wolves. With those provisions in place, the Service has completed the first step in reintroduction, bringing 29 Canadian gray wolves to Yellowstone and central Idaho in January, 1995. If allowed to return on their own, the wolves would eventually repopulate the area, but without the special management options now available and requiring additional decades to reach recovery. With continuing reintroductions over the next two to four years, recovery levels of 100 wolves in each reintroduction area would be reached by the year 2002, at a cost of about \$6.7 million.

Contact:

- Ed Bangs, Project Leader, Wolf Reintroduction Program
406-449-5225
- Georgia Parham, Public Affairs, U.S. Fish and Wildlife Service
202-208-5634

Lower 48 States: The American Bald Eagle

By 1963, the presence of DDT in the food chain, which caused eagles and other birds to lay eggs with shells that were too thin to last to hatching, had precipitated a dramatic decline in the eagle population to 417 nesting pairs. A ban on the use of DDT and the protection afforded the eagle by the Endangered Species Act had, by 1994, increased the population nationwide to about 4,400 nesting pairs. This impressive increase in the eagle population allowed the U.S. Fish and Wildlife Service to propose in 1994 that the eagle be reclassified in 43 states from endangered to threatened, and to recommend eventual removal from the endangered species list altogether, although the latter action may not occur until the year 2005. The eagle population today is considered quite strong, with the species doubling its breeding population every 6 to 7 years. The average number of eaglets produced per active nest per year now indicates an increase in the species' population of about 10 percent per year. The number of occupied active eagle nest sites increased 408 percent since 1974 and 32 percent since 1990.

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- Georgia Parham, Public Affairs,
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Massachusetts: The Plymouth Redbelly Turtle

The U.S. Fish and Wildlife Service listed the redbelly turtle, a large, freshwater turtle with a shell 10 to 12 inches long when mature, as an endangered species in 1980. The Plymouth redbelly is found in 17 ponds and one river in Plymouth County, Massachusetts. It is a mid-Atlantic to southern species with its closest relatives in New Jersey. Because of its small population size (there are only about 300 breeding-age turtles in Massachusetts) and its limited geographic range, the Plymouth redbelly is susceptible to population declines. But scientists have nonetheless made steady progress toward achieving full recovery of the species. A major recovery effort was the establishment in 1984 of the Massasoit National Wildlife Refuge, a satellite of Great Meadows National Wildlife Refuge in Sudbury, operated jointly by the Service and the Massachusetts Division of Fisheries and Wildlife. Biologists have made efforts to protect turtle nests and hatchlings from predation. Cranberry growers in Plymouth County have cooperated in the recovery program; the openness of reservoirs and upland watershed areas managed by the cranberry industry provide high quality turtle nesting habitat. All of these efforts have markedly improved the outlook for the turtle's future and biologists now predict that reclassification of the turtle to threatened will be possible by the year 2000 if the recovery program is successful, and full recovery may be achieved by 2015.

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Ohio: Bald Eagle

Through successful restoration efforts by the Ohio Division of Wildlife and protection under the Endangered Species Act, bald eagles have significantly recovered in Ohio. The 1995 count of nesting pairs in the state was 29, compared to 4 nesting pairs counted in 1974. The U.S. Fish and Wildlife Service assists in helping to avoid or minimize impacts to the birds through contaminants monitoring and consultations under the endangered species program.

Texas: Pecos Gambusia, Comanche Springs Pupfish

The Texas Department of Parks and Wildlife, the Texas Agricultural Extension Service, private landowners, and the U.S. Fish and Wildlife Service are working to create endangered fish habitat and continue traditional agricultural practices in West Texas. An agreement was reached between landowners and Balmorhea State Park to guarantee surface water in an artificial cienga (wetland area). Ciengas are traditional habitat for the endangered Pecos gambusia and Comanche Springs pupfish. In exchange for providing water, landowners have the flexibility to implement alternative pesticide measures around outer irrigation canals.

Contact:

- Tom Bauer, Public Affairs, Region 2
505-766-3940

Texas: An Agreement to Protect Red-Cockaded Woodpeckers

In August 1994, the U.S. Fish and Wildlife Service signed a Memorandum of Agreement with Champion International Corporation, the U.S. Forest Service, and the Texas Parks and Wildlife Department in Onalaska, Texas, to benefit the endangered red-cockaded woodpecker. Under the agreement, Champion will protect and manage a 2,000-acre mature longleaf pine stand, a type of habitat rare in East Texas. It will benefit the woodpecker and other sensitive species, including other federal and state-listed wildlife, while allowing the selective harvest of individual trees in the area. Champion will consolidate its long-term woodpecker management in this area, increasing the prospects for survival and expansion of existing populations within the management area, and providing a reserve population to bolster other populations on state and federal lands in Texas.

Oregon: Logging and the Spotted Owl

Under an agreement between the U.S. Fish and Wildlife Service and Weyerhaeuser Co., the wood products corporation will log on 209,000 acres in Oregon's spotted owl country. This is the first such plan in Oregon between the Federal government and a private timber company. The Millicoma Tree Farm agreement, known as a Habitat Conservation Plan (HCP), will make a combination of set-asides for the spotted owl for the first 20 years of what is at least a 50-year plan. In return, Weyerhaeuser will be protected from prohibitions on "taking" of spotted owls—restrictions that ordinarily apply to the harm of protected species on private land. There are 35 owl sites on the Millicoma property and 10 pairs have produced offspring. Under the Millicoma plan, Weyerhaeuser will 1) leave 1,963 acres of existing habitat for at least the first 20 years of the agreement, 2) achieve by the year 2014 a landscape in which at least 40 percent of the tree farm will be in forested stands capable of providing habitat for dispersing young owls and 3) maintain the plan for 50 years, with

the Service having the option of extending it for another 30 years if certain criteria related to the status and conservation of the owl are met. The Weyerhaeuser agreement is the third such Habitat Conservation Plan the Service has approved with a private timber company. In 1992, the Service approved a plan for a 383,000-acre parcel owned by the Simpson Timber Company in northern California; in 1993, a similar plan was approved for the Murray Pacific Corporation's 54,000-acre holdings in Lewis, Washington. "This is a classic 'win-win' solution, and I thank Secretary Babbitt for his leadership and compliment the Fish and Wildlife Service for its professional approach in handling our application," said Charles W. Bingham, executive vice president of the Weyerhaeuser Co. "Weyerhaeuser has distinguished itself as a real leader in the future of forest management," said Secretary Babbitt. "The land included in this plan will now be managed for both timber and owls, showing that we can achieve our conservation goals and still cut timber in an environmentally responsible way."

Contact:

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503-231-6121
- Paul Barnum, Communications Manager,
Weyerhaeuser Co.
503-741-5431

Texas: The Brown Pelican

In 1994, brown pelicans, first listed as endangered in 1970, successfully nested on Little Pelican Island in Galveston Bay in Texas for the first time in more than 40 years. Approximately 125 pairs nested and produced 90 young.

Contact:

- Tom Bauer, Public Affairs, Region 2
505-766-3940

Texas: Aplomado Falcon

Aplomado falcons are being reintroduced in Cameron County, Texas, where a voluntary effort involving local landowners, and state and federal agency representatives resulted in the formation of the Cameron County Wildlife Co-Existence Committee. Through this effort, landowners were able to express their concerns regarding nationally mandated pesticide restrictions and offer practical alternatives to enable traditional agriculture to co-exist with endangered species. This spring, aplomado falcons nested near Brownsville, Texas, the first time this species has nested in the United States in more than 40 years. The pair produced one healthy chick. The Peregrine Fund, an independent conservation group dedicated to birds of prey, has released more than 30 captive-bred aplomado falcons at Laguna Atascosa National Wildlife Refuge in southern Texas since 1993. Further releases are planned.

Contact:

- Tom Bauer, Public Affairs, Region 2
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- Wayne Halvert, Chairman, Wildlife
Co-Existence Committee
210-423-7015

Ohio: A Consultation Helps Save 800 Jobs

When the Meigs 31 coal mine flooded with underground water in 1993, the Southern Ohio Coal Company faced a dilemma. Should they close the mine and cause job losses, or open the mine and risk environmental damage from the pumping of water from the mine shaft? The company worked with a number of federal and state agencies, and with the U.S. Fish and Wildlife Service on federally-listed endangered species issues. Through an informal consultation, the company and the Service arrived at a solution that avoided or minimized damage to endangered mussels when water in the flooded mine was pumped into two creeks that feed into the Ohio River. The mine is again open and 800 residents still have their jobs.

Virginia: Virginia Round-Leaf Birch

While only 11 trees remain of the rare Virginia round-leaf birch in southwest Virginia, cultivated seedlings have increased the species' population to 1,400 trees in 20 additional locations, moving the U.S. Fish and Wildlife Service to propose in November 1994 that the species be reclassified from endangered to the less-critical category of threatened. The Virginia round-leaf birch was first described by botanist W. W. Ashe, who noticed the trees with the unusual leaves on the banks of Dickey Creek in Virginia in 1918. For almost 60 years, the birch was believed extinct, until a naturalist rediscovered the species not far from Ashe's original site. Representatives from various government agencies, academic institutions, the conservation community and the private sector formed a committee to study, manage and protect the tree. Private landowners are cooperating by allowing the erection of fences, the distribution of artificially-propagated seedlings, the removal of competing vegetation, and by helping to stabilize creek banks against erosion. The outlook for the round-leaf birch has improved significantly and it may eventually be removed from the threatened list.

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- Diana Weaver, Public Affairs, Region 5
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Massachusetts: Bog Turtle Habitat

Wetlands have been restored by The Nature Conservancy on land the organization owns in Massachusetts, for the benefit of the bog turtle. This restoration will provide critical basking, nesting and nursery habitat for the bog turtle.

Contact:

- Spence Conley, Public Affairs, Region 5
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- Frank Lowenstein, The Nature Conservancy
413-229-0232

New Jersey: Bat Conservation

The U.S. Fish and Wildlife Service completed construction of a bat conservation gate on private property at the Hibernia mine in Morris County, New Jersey, during July, 1994. The Hibernia mine supports the largest known bat hibernaculum in New Jersey and the only known hibernaculum for the federally endangered Indiana bat in the state. The landowner granted permission for construction of the gate to the Service and the New Jersey State Endangered and Nongame Species Program. This project was also supported by Bat Conservation International, a non-profit organization dedicated to bat conservation around the world.

Contact:

- Spence Conley, Public Affairs, Region 5
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- Mike Valent, New Jersey Endangered and Nongame Species Program
908-735-8975

California: San Francisco Bay and Sacramento-San Joaquin Delta

On December 15, 1994, the federal government and the State of California agreed to a plan to protect the San Francisco Bay and Sacramento-San Joaquin Delta estuary ecosystem, while providing reliable water supplies to farms and cities across the state. The landmark agreement, which came after lengthy and intensive negotiations, involved four federal and five state agencies. It is already considered a model for solving complex resource management issues. The pact covers the delta inland from San Francisco Bay to the confluence of the Sacramento, the San Joaquin and a number of smaller Northern California rivers. It establishes limits on how much fresh water can be diverted from the estuary to agriculture and municipal water users. The pact also aims to protect imperiled fish species by ensuring that the young survive migration through the delta and that diversions do not make breeding waters too salty. The delta may be California's most important water resource and is the largest wetland habitat in the western United States. It provides 60 percent of the fresh water used in California and is the source of irrigation water for nearly half of the nation's fruit and vegetable crops. The December agreement established final water quality standards for the bay-delta issued by the Environmental Protection Agency, and included the U.S. Fish and Wildlife Service final designation of critical habitat for the delta smelt, listed as a threatened species. "I want to congratulate all involved parties for reaching this unprecedented agreement," said Richard Rosenberg, chairman and chief executive officer of the Bank of America and chair of the Water Task Force of the California Business Roundtable. "It demonstrates that water supply in California can be managed in the best interests of both the economy and the environment."

Contact:

- David Klinger, Public Affairs, Region 1
503-231-6121
- Bill Glenn, Public Affairs, Environmental Protection Agency
415-744-1589

Montana: Bald Eagle Viewing Management Program

Extensive local, state and national media attention has attracted more than 10,000 people each fall to view the concentration of eagles on the Missouri River below Canyon Ferry Dam. Between mid-October and mid-December, more than 400 bald eagles at a time gather to feed on spawning kokanee salmon. A cooperative management plan and public education program was developed to help the public view the eagles while minimizing disturbance to the birds. Recreational and other activities such as dredging and mining are coordinated and managed. A Bureau of Reclamation Visitor Center was dedicated to informing and educating the public about the seasonal eagle influx, and approximately 4,200 people used the Visitor Center in 1993, including 2,690 elementary school children. Cooperators include the U.S. Fish and Wildlife Service, the Montana Department of Fish, Wildlife and Parks, the Bureau of Land Management, the U.S. Forest Service, Bureau of Reclamation, municipal and county representatives and private land owners.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904
- Betsy Spettigue, Montana Department of Fish, Wildlife and Parks
406-444-1276

Kansas: Highway Bridge Consultations

Through consultations with the Federal Highway Administration regarding various bridge replacement projects over the past several years, the U.S. Fish and Wildlife Service and FHWA, along with state wildlife and highway agencies, have developed a relationship that has seen no highway bridge replacements either stopped or significantly

delayed when they had potential to affect bald eagle habitat. In each instance, the habitat (usually perch trees) was either 1) avoided altogether or 2) replaced at cost in a nearby area.

Contact:

- Mike Smith, Public Affairs, Region 6
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- Tony Zahn, Public Affairs, Federal Highway Administration
816-276-2700

Colorado: The Uncompahgre Fritillary Butterfly

Discovered in 1978, the butterfly was threatened over the years by collectors, trampling by livestock, small population size and low genetic variability, and was listed as endangered by 1991. Colonies existed on U.S. Bureau of Land Management land and on U.S. Forest Service property. Though BLM and the USFS had collecting and grazing restrictions in place prior to listing, adding the butterfly to the list increased its protection and placed more emphasis on managing the fragile habitat in which the butterfly resides. Following the listing, the U.S. Fish and Wildlife Service entered into an interagency agreement to provide recovery funding. Partnerships were also formed with the University of Nevada, Reno, and the Colorado Natural Areas Program to carry out preparation and implementation of a recovery plan. Since its listing, the butterfly has shown an increase in numbers and a new large colony has been found a little more than a mile from the original discovery site. If funding is provided for management and research in coming years, the butterfly should continue its recovery trend.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904
- Janet Coles, Colorado Natural Areas Program
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Nebraska: Whooping Crane

Through the Partners for Wildlife program, the U.S. Fish and Wildlife Service has worked to restore whooping crane roosting habitat on the Platte River, which serves as habitat for migrating whooping cranes which prefer to roost in wide channels free of vegetation and other obstructions. Much of the Platte that had been vegetation-free has become thickly forested due to extensive water impoundment and diversion throughout the Platte River system. Agreements have been signed with the National Audubon Society and individual private property owners to clear trees and vegetation from their property to open up habitat not only for the endangered whooping crane, but also for sandhill cranes, waterfowl, shorebirds and other migrating birds dependent upon such habitat.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904
- Dennis Sherrerd, private citizen
308-234-3938

Nebraska: Least Tern and Piping Plover

The endangered least tern and threatened piping plover nest on sandbars in the Platte River, and also at commercial sand and gravel operations. Much of the birds' natural sandbar nesting area has disappeared; the U.S. Fish and Wildlife Service has assisted the Platte River Whooping Crane Trust and the Nebraska Public Power District in creating sandbar habitat in the river channel. Vegetation is cleared and a dredge sidcasts sand and gravel onto cleared islands to simulate the natural nesting areas of both species. To date, six of these habitat complexes have been constructed along

the central Platte. The Service has also worked with the Nebraska Concrete and Aggregates Association and with private mining companies, to fence nesting areas at sand pits. The areas are signed with "Do Not Enter" warnings and mining personnel are informed of measures to protect the nesting birds. There has been no loss of jobs or profits as a result of these protective measures.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904

Kansas: Bald Eagle

The Army Corps of Engineers proposed to issue a permit for the development of Riverfront Plaza, an outlet shopping mall, on a bank of the Kansas River in Lawrence, Kansas. The project involved the removal of several large trees used by bald eagles as perch trees; the area in question was a known use area for the species, particularly during the cold winter months. The mall proposal became locally divisive. The U.S. Fish and Wildlife Service coordinated with the Corps, the Kansas Department of Wildlife and Parks and local sponsors, and reached an agreement whereby permit conditions created a habitat area which the Service believes to be more stable and secure than that which existed prior to the project. The mall builders installed one-way viewing windows on the river side of the building, enabling patrons who might otherwise never see an eagle in the wild, to view the birds undisturbed from inside the shopping mall.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904
- Marty Burke, Kansas Department of Wildlife and Parks
913-296-2281

Kansas: Private Property and the Bald Eagle

Two bald eagle nests have become established in Kansas, and both are located on private property. The first is on agricultural land in western Kansas, where the landowner is very protective of the birds; he has, however, allowed the U.S. Fish and Wildlife Service limited access for monitoring and banding efforts. The second nest is located on a cooling lake operated by the Wolf Creek Nuclear Operating Corporation. The Wolf Creek staff has taken an active interest in this nest in terms of protection and monitoring and has assisted the Service in a successful effort to band the eaglets.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904
- Mona Grimsley, Wolf Creek Nuclear Operating Corporation
316-364-4143

Kansas: Peregrine Falcon

A pair of banded peregrine falcons arrived in downtown Topeka in March, 1993, and began to establish a territory less than four blocks from the State Capitol. One of their favorite perch buildings was one belonging to the Kansas Power and Light Co. An agreement was reached with KPL limiting access and maintenance to the roof, permitting placement of a nest box and a constant-monitor video camera. The company's cooperation created considerable positive public relations, as well as heightened public awareness of the importance of species such as the peregrine falcon. In 1994, the pair returned, most often using a vacant building owned by the City of Topeka. The city cooperated with the Kansas Department of Wildlife and Parks to erect a second nest box on the building, which was successfully used by the pair. Four eggs

were laid, of which three hatched, with the nestlings subsequently banded by Service biologists.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904
- Michel' Philipp, Public Information Director,
Western Resources (KPL)
913-575-1927

Kansas: Least Tern

Partners for Wildlife assisted in restoration of a Cimarron River nesting site for least terns. Salt cedar invasion was reversed and predators were excluded. In 1992, the colony had declined from 11 pairs to 1 breeding pair; following restoration work, the colony increased to 6 breeding pairs, which produced 7 young.

Contact:

- Mike Smith, Public Affairs, Region 6
303-236-7904

New York, Pennsylvania: Endangered Fresh Water Mussels

Riparian restoration in the form of streambank fencing and plantings has been conducted on several properties along French Creek in New York and Pennsylvania. These projects will also benefit endangered fresh water mussels, as well as preserve the diversity of the globally rare community found in the creek. The U.S. Fish and Wildlife Service worked with Partners for Wildlife, The Nature Conservancy, the Western Pennsylvania Conservancy and volunteers in construction of the fencing and installation of plantings. The project is continuing.

Contact:

- Spence Conley, Public Affairs, Region 5
413-253-8325
- Carl Schwartz, New York Field Office
607-753-9334

Ohio: Peregrine Falcon

Nesting peregrine falcons have been successfully established on ledges of tall buildings in Cleveland, Columbus, Cincinnati, Dayton, Toledo and Akron by the Ohio Division of Wildlife. In 1993, when it became apparent that a planned Fourth of July fireworks display in Cleveland would coincide with the hatching of falcon chicks, the U.S. Fish and Wildlife Service, working under an emergency informal consultation, helped the city maneuver the displays in a way that would not harm the birds. Not only did the fireworks show go off as scheduled, but the falcons ended up stars of the show—at the finale, a crowd of 75,000 people sang a lullaby for the falcon chicks.

Ohio: Lakeside Daisy

These flowers, bright yellow and with a blossom 1½ to 2 inches in diameter, occur in the United States only at a few locations in the Great Lakes region. The Lakeside daisy, which thrives in coarse soil heavy in limestone, is threatened primarily by limestone quarrying. To enhance the flower's chances of survival, the Ohio Division of Natural Areas and Preserves purchased a 19-acre reserve. The ODNAP also relocated a number of daisies that would otherwise have been destroyed. The U.S. Fish and Wildlife Service has provided about \$15,000 to the State of Ohio to assist in this successful relocation and monitoring effort.

Endangered Species Act: The Rest of the Story

The Allegations and Responses

California: The Stephens' Kangaroo Rat and Homebuyers

The Allegation

This little rodent cost 100,000 taxpayers of Riverside County, California, \$1,950 each in "impact fees" to raise the \$103 million needed to set aside 30 square miles of habitat. Farmers lost up to half their tillable acreage. One family lost \$75,000 in annual farm income. (Source: Timber Industry Labor Management Committee).

The Response

Under Riverside County's Habitat Conservation Plan for the Stephens' kangaroo rat, a mitigation fee of \$1,950 per acre of new development, not per taxpayer, is being collected to purchase permanent habitat reserves for the species, helping clear the way for development of other areas in the county. The mitigation fee translates into approximately \$215 per home, or less than one-fourth of 1 percent of the cost of a \$95,000 home.

California: The 1993 Fires

The Allegation

People's homes burned down in California because they could not clear vegetation around their homes due to prohibitions on such clearing designed to protect the endangered Stephens' kangaroo rat.

The Response

The General Accounting Office (GAO) investigated these allegations and reported to the Congress in June, 1994, that the California fire was fanned by 80-mile-per-hour winds, and jumped concrete barriers, highways and a canal. According to GAO, "while some owners continue to believe that disk-ing around their homes prior to the fire would have saved their homes, we found no evidence to support these views. Homes where weed abatement, including disking, had been performed were destroyed, while other homes in the same general area survived even though no evidence of weed abatement was present. Overall, county officials and other fire experts believe that weed abatement by any means would have made little difference in whether or not a home was destroyed in the California fire." Firemen said clearing hundreds of feet of ground would not have mattered, because fires of such ferocity can leapfrog more than a mile with searing ashes or hot embers. A university professor who has studied such fires declared this fire was something that "not even the entire U.S. Army could have stopped." Finally, GAO concluded, "on the basis of the experience and views of fire officials and other experts...the loss of homes during the California fire was not related to the prohibition of disking in areas inhabited by the Stephens' kangaroo rat."

California: The Kern County Farmer***The Allegation***

A "strike force" of 25 agents swooped down by helicopter, arrested a Taiwanese immigrant farmer in Kern County, California, and seized his tractor for killing an endangered rat and other endangered species when he was unaware there were protected animals on his property.

The Response

Mr. Taung Ming-Lin, an immigrant from Taiwan, paid \$1.5 million for arid property in California. In November, 1992, he was notified by registered letter from the State of California that there were endangered species (Tipton kangaroo rat, San Joaquin kit fox and blunt-nosed leopard lizard) on his property and that he needed to contact state and federal wildlife officials to obtain permits before proceeding with development of his land. Other California landowners in similar situations have obtained such permits. In February, 1994, a State fish and game representative spoke with Mr. Ming-Lin's foreman about whether appropriate permits had been obtained for developing the land, since endangered species were present. The representative advised Mr. Ming-Lin's son during the same visit of the need to gain appropriate permits and provided names of individuals to contact. He advised them that cultivation should stop until permits were obtained. Two more contacts were made by state and federal agents advising of the need to obtain permits before a search warrant was eventually executed on February 20, 1994, by approximately four U.S. Fish and Wildlife Service agents, California fish and game wardens and biologists. No helicopters were used. Remains from endangered Tipton kangaroo rats were located. A tractor and a disc were seized under the authority of the search warrant. In May, 1995, the government dropped the charges in exchange for Mr. Ming-Lin's agreement to wait 6 months before resuming farming, to obtain the necessary federal and state permits and to donate \$5,000 to endangered species protection in Kern County.

Florida: The Scrub Jay***The Allegation***

In Florida, a person's home is not his castle when it comes to the Florida Scrub Jay. More than 250 landowners (were) warned not to alter or remove underbrush from their property because "any activity which destroys scrub occupied by scrub jays may violate (the law)." Touch that scrub and you may land in jail for up to 1 year and pay up to \$10,000 in fines. (Source: Timber Industry Labor Management Committee).

The Response

Letters were mailed to a large number of property owners in Florida explaining how they may obtain authorization to proceed with development plans. The letters contained information, not threats. Since the beginning of that initiative, hundreds of authorizations to proceed have been issued by the U.S. Fish and Wildlife Service in Jacksonville, and many of those were granted within a week of the request. Brevard County has requested and received a congressional appropriation to fund a Habitat Conservation Plan, which, when approved by the Service, will solve development conflicts in that county as they relate to scrub jays. Other large projects have proceeded with HCPs or were resolved without a need for permits. Overall, public reaction to the scrub initiative has been one of acceptance and cooperation. The Endangered Species Act has been used to its fullest to help solve conflicts related to this species.

Florida: Key Deer

The Allegation

To protect more than 400 head of endangered key deer on 8,000 acres of Florida Keys, elementary children are bused an additional 30 miles around the habitat. A plan to build a school at a closer location has been stalled because of opposition by environmental groups. (Source: Timber Industry Labor Management Committee).

The Response

The Florida key deer, listed as endangered in 1967, inhabits some 26 islands in the lower Florida Keys. The herd currently numbers between 250 and 300. Big Pine Key is believed to support two-thirds of this population due to its size, predominance of pineland, and year-round availability of fresh water. The deer need to cross U.S. Highway 1 to gain access to seasonal fresh water and to maintain genetic diversity. More deer are killed each year by vehicles (60 to 65) than are being replaced by the herd, and half the deaths occur on U.S. 1. In an effort to satisfy the recovery plan goal to establish underpasses and overpasses so the deer may safely cross the highway, the key deer recovery team needed to locate two areas that could be used as corridors. The proposed school was to be built near one of the corridors. On February 7, 1995, U.S. Fish and Wildlife Service staff met with representatives of Monroe County, the School Board, and the Florida Department of Community Affairs to discuss locating the school in an existing facility. The Service agreed the revised plan would not interfere with movement of the deer because the proposal was for a small neighborhood school and development will consist only of renovating existing church buildings and no more than two portable classrooms. A vegetated buffer zone will be maintained and traffic patterns are not expected to increase. The Service also recommended development of a habitat conservation plan (HCP) in the area while protecting endangered species and pledged necessary technical assistance to expedite a successful HCP.

North Carolina: Timber and the Red-Cockaded Woodpecker

The Allegation

When the endangered Red-cockaded woodpecker arrived on Ben Cone's property in North Carolina, the Endangered Species Act put 1,000 acres of his land off limits to him. He has spent \$8,000 to pay biologists to make sure he is following the stringent rules and figures he has lost \$1.8 million in timber that is tied up in the protected zone. To protect his remaining land from being occupied by the bird and consequently falling under federal land control, Cone had no choice but to change his timber management practices to try to harvest the pines before they become old enough to attract woodpeckers and prevent him from using the rest of his land. (National Wilderness Institute, Endangered Species Blueprint).

The Response

Mr. Cone was initially offered the option of developing a Habitat Conservation Plan, which allows incidental take of an endangered or threatened species in pursuit of otherwise lawful activity—such as logging. Many organizations and developers are participating in such plans. Mr. Cone declined. In the meantime, he did submit a management plan to the U.S. Fish and Wildlife Service in Atlanta, which was approved. He is managing his land, and logging it.

North Carolina: The U.S. Army and the Red-Cockaded Woodpecker

The Allegation

The U.S. Army can defend against the armies of Saddam Hussein, but they are losing their battles with the Red Cockaded Woodpecker. Several areas of Fort Bragg, North Carolina, have been closed and construction of a needed maintenance division complex is on hold because of this bird, which may also threaten harvest of the Southern Forest. Some call the Red Cockaded Woodpecker the spotted owl of the future. (Source: Timber Industry Labor Management Committee)

The Response

There are 182 million acres of timberland in the South (90 percent privately-owned and 10 percent, federal and state-owned). The U.S. Fish and Wildlife Service estimates that between 500 and 1,000 groups of Red Cockaded Woodpeckers may still survive on private lands. Based on the current habitat guidelines for Red Cockaded Woodpeckers, 1,000 groups would require 60,000 acres (i.e., 60 acres per group), or less than 1 percent of the total private timberland in the South. This is not considered a threat to the Southern Forest, which has already been harvested three complete times. Construction of the Army's maintenance division complex has gone forward at Fort Bragg following completion of the consultation process with the Service, and no necessary training activities have been stopped because of endangered or threatened species. In the case of the Army projects, consultation was the key. Endangered Species Act listings rarely require a substantial change in plans for development. A 1992 General Accounting Office audit found that of 18,211 consultations between 1988 and 1992, 99.9 percent went forward unchanged or with minor modifications.

Oregon: The Butterfly and the Golf Course

The Allegation

In a cover story entitled, "The Butterfly Problem," in the January, 1992 issue of *The Atlantic*, the authors portrayed an Oregon developer whose lifelong dream of carving fairways on a section of the Oregon coast was snuffed in the morass of Endangered Species Act protection of an endangered butterfly.

The Response

U.S. Fish and Wildlife Service personnel helped the developer obtain an incidental take permit under the Endangered Species Act, recognizing that development of a Habitat Conservation Plan in connection with the golf course would assist the long-term survival of the butterfly. The developer, however, was unable to satisfy Oregon's land use planning laws on grounds unrelated to the ESA, and the project was abandoned.

Texas: Endangered Species Lower Property Values

The Allegation

The presence of endangered species has lowered property values in Texas.

The Response

This allegation is frequently associated with anecdotal reports from individual landowners or with a study conducted by the Texas and Southwestern Cattle Raisers Association. Land values in the Austin area, to cite one example, did decline after the mid-1980s, but most of that decline occurred in 1987 because of the Savings and Loan crisis. The golden-cheeked warbler—the species usually blamed for the loss of property values—was not listed as endangered until 1991. The study by the TSCRA purported to show that land values in 33 Texas counties affected by endangered species listings had declined more than land values in other Texas counties. This study was analyzed by Dr. Stephen Meyer of the Massachusetts Institute of Technology (MIT), who found that TSCRA had analyzed the economic data incorrectly and that the data did not in fact support the conclusion that property value declines were associated with the presence of endangered species.

Texas: Species Stalls Real Estate Sale

The Allegation

Margaret Rector owns 15 acres of commercially-zoned property in Travis County, Texas, which is habitat for the golden-cheeked warbler. Because an endangered species is present on her property, she is unable to either develop or sell it. Since the land cannot be developed, the value of the acreage has declined and Ms. Rector alleges she has not only lost a good deal of money, but now cannot find a buyer at all because of the presence of an endangered species on her land.

The Response

The U.S. Fish and Wildlife Service informed Ms. Rector that development of her property required a permit under either Section 7 or Section 10 of the Endangered Species Act. No application for such a permit has been received. Land values in the Austin area declined significantly in the wake of the Savings and Loan crisis, and the majority of the area's property value decline occurred at that time, prior to the listing of the golden-cheeked warbler. It is true that buyer concern about the presence of endangered species has been an issue in Austin real estate sales. The proposed Balcones Canyonland Conservation Plan would address problems such as that experienced by Ms. Rector.

Texas: Critical Habitat and the Golden-Cheeked Warbler

The Allegation

The U.S. Fish and Wildlife Service proposed 20 million acres in 33 Texas counties as critical habitat for the golden-cheeked warbler.

The Response

The Service never had plans for any proposal of the magnitude described above. There is less than 800,000 acres of potential warbler habitat in the entire State of Texas. Secretary Babbitt announced in October 1994 that designation of critical habitat would not be necessary for the conservation of the species if habitat conservation plans were put into place. Work on those plans is proceeding.

Texas: Cedar and Private Land

The Allegation

The U.S. Fish and Wildlife Service sues private landowners in Texas who try to control cedar on their property.

The Response

The Service supports private property rights and has repeatedly said that control of cedar regrowth and ongoing ranching practices do not harm the habitat of the golden-cheeked warbler.

Texas: The Widow's Story

The Allegation

In testimony before the Senate Environment and Public Works Committee in April, 1992, a representative of the National Cattlemen's Association told of a widow near Austin, Texas, who wanted to clear her fencerow of brush, only to be threatened with prosecution by the U.S. Fish and Wildlife Service.

The Response

The woman was advised by the Service that her clearing of a 30-foot wide, one mile-long fencerow might harm endangered songbird nesting habitat, but after Service representatives met with her and assessed the situation, she was given the go-ahead to clear the fencerow.

Utah: Domestic Geese and the Kanab Ambersnail

The Allegation

The U.S. Fish and Wildlife Service forced domestic geese in Utah to vomit to see if their stomachs contained endangered Kanab ambersnails. The landowner was threatened with a fine of \$50,000 for each snail eaten by a goose. (Source: National Wilderness Institute, Endangered Species Blueprint).

The Response

Some geese were removed from a pond inhabited by Kanab ambersnails. None were forced to vomit, nor was anyone threatened with a fine for snails consumed by the geese.

Critical Habitat and Development

The Allegation

When the U.S. Fish and Wildlife Service declares "critical habitat" for an endangered or threatened species, private landowners are prevented from developing their land. Critical habitat designations "lock up" large sections of land, prevent most human activities and are the equivalent of setting aside wildlife sanctuaries. Critical habitat designations prevent all economic development.

The Response

A "critical habitat" designation means that federal agencies must consult with the Fish and Wildlife Service when their activities may adversely modify habitat designated as critical to the recovery of the species. If it is determined that a project will jeopardize the species, the Fish and Wildlife Service is required by the Endangered Species Act to offer "reasonable and prudent" alternatives that will protect the habitat while permitting the project to proceed. More than 99 percent of all projects do go forward. "Critical habitat" designations apply only to actions authorized, funded or carried out by federal agencies. Critical habitat does not affect private landowners unless they plan a development project that requires federal funding, permits, or some other action by a federal agency. A critical habitat designation in no way sets aside an area as a wildlife sanctuary or wilderness area.

California: The Stephens' Kangaroo Rat

The Allegation

Ms. Cindy Domenigoni has had more than half of her farm's 3,100 acres of dry land wheat, barley, alfalfa and beef cattle severely impacted by the listing of the Stephens' kangaroo rat. She has been forced to idle 800 acres of her land due to restrictions even though her family has farmed and co-existed with the species for the last 120 years. The federal protections afforded the rat have stripped her of her fundamental property rights, diminished her land values and drained her family's financial resources. She has incurred nearly \$400,000 in lost income and direct and indirect expenses due to K-rat restrictions. (Summary of testimony of Cindy Domenigoni before the House Merchant Marine and Fisheries Committee, July 7, 1993, in Woodland, California).

The Response

The U.S. Fish and Wildlife Service is not familiar with 800 idled acres, but is aware that 400 acres of the Domenigoni farm originally was idled when it was believed that it may have been habitat for the Stephens' kangaroo rat. A Service biologist subsequently examined the land in question and determined that the land was not K-rat habitat. The Service then granted permission to the Domenigoni farm to proceed with farming on the acreage, in December, 1993. Ongoing farming activities in the Riverside County area have not generally been restricted because of K-rat habitat, and farming does not require a grading permit. Grading permits are required for new activities on the land, not continuing activities.

Economics and the Endangered Species Act

The Allegation

The Endangered Species Act has brought development across the country to a halt.

The Response

Properly implemented and enforced, the Endangered Species Act successfully balances economic needs with conservation needs—as evidenced by the U.S. Fish and Wildlife Service's consultation record. Endangered Species Act listings rarely require a substantial change in plans for development. A 1992 General Accounting Office audit found that of 18,211 consultations between 1988 and 1992, 99.9 percent went forward unchanged or with minor modifications. A Massachusetts Institute of Technology study, "Endangered Species Listings and State Economic Development," completed by Stephen M. Meyer in 1994 for the Project on Environmental Politics and Policy, concluded that "...the evidence strongly contradicts the assertion that the listing of species under the Endangered Species Act has had harmful effects on state economies."

Economic Development and the Endangered Species Act

The Allegation

Listing of species under the Endangered Species Act hurts economic development.

The Response

Between 1988 and 1992, only 6 in 5,000 projects was actually stopped because of the Endangered Species Act. The remainder—99.9 percent—went forward without major changes.

Tuna Cave Cockroach

The Allegation

The next thing you know, they'll try to put cockroaches on the endangered species list. Too late. They already have. The Tuna Cave Cockroach is found in Puerto Rico is a candidate for inclusion on the list. At least 40 percent of the candidates for endangered species are rodents, beetles, snails and moths. It will require \$144 million to list and study these candidates. (Source: Timber Industry Labor Management Committee).

The Response

The Tuna Cave Cockroach is not on the list of Endangered and Threatened Plants and Animals. It is on the candidate list, but the U.S. Fish and Wildlife Service has spent no money on the species. Rodents, beetles, snails and moths comprise 36 percent of the candidates for listing, and it is estimated that the study and listing of all 619 species would cost \$19.6 million, not \$144 million.

Indiana: A Farmer Loses His Farm

The Allegation

A southwestern Indiana farmer named Bart Dye stands to lose his farmland which has been in his family since 1865. The U.S. Fish and Wildlife Service considers the protection of two species, mussels in a river adjacent to Mr. Dye's land, and the possibility that someday a bald eagle may decide to land on his property—none of which have been sighted—threatens to rob Mr. Dye of the use of his farm and prevent him from ever owning it.

The Response

The Farmers Home Administration foreclosed on a 982-acre farm in Martin County, Indiana, in 1984. Because of a national Memorandum of Understanding with the U.S. Fish and Wildlife Service, FmHA subsequently requested the Service to evaluate the farm for wetlands and endangered species. Subsequent evaluation showed that bald eagles, Indiana bats, Eastern fanshell mussels and rough pigtoe mussels all resided on part of the land or in a nearby river. The Service recommended establishment of several conservation easements, which consisted of a 10-acre wetland, a forested bluff adjacent to the White River consisting of approximately 255 acres for the protection of the bats and eagles, and two 100-foot buffers along the river. All of those actions resulted in a total of 11 acres of suitable cropland being withdrawn from the total inventory. The original owner, Mr. Bart Dye, has exercised lease-back buy-back rights to the farm. Those rights expire in June, 1996, at which time Mr. Dye must buy the farm or FmHA must offer it for sale to the public. The foreclosure has been through a judicial review and FmHA's actions regarding acquisition of the property have been upheld. The easements will not restrict any future owner's access or use of the farm and the price paid by any future purchaser will be reduced as a result of the easements.

California: Fairy Shrimp and Housing Costs

The Allegation

The cost of a house in the City of Roseville, California, is up \$6,000 as a result of the listing of the fairy shrimp.

The Response

There is a mitigation program involving the fairy shrimp in which developers are required to pay for either restoration of habitat or acquisition, or a combination of both, when the vernal pools that support the fairy shrimp are on land marked for development. The \$6,000 figure is possible if dealing with a single homesite; if considering a large subdivision, the number would likely be much less per home. The mitigation is required when it is apparent that development will cause vernal pools to be filled. That can be avoided, but it can also involve significantly larger parcels of land because the pools are dependent on watershed, which may in turn span a number of homesites. Biologists in California are aware of the vernal pool/development problem, and are trying to help developers work through it.

Michigan: A Fee Or A Fine

The Allegation

A farmer was told he would be allowed to return to farming if he gave the government one square mile of his property and a mitigation fee of \$300,000. When the farmer refused this offer, he was fined \$300,000. That was 10 years ago. The farmer is still fighting.

The Response

U.S. Fish and Wildlife Service law enforcement agents in Ann Arbor and the Field Supervisor in East Lansing, who deal with all of Michigan, recall no such case. The choice of a fee or a fine by a court seems highly unusual. The only scenario may involve something to do with an easement, which in any case would not involve threatened or endangered species.

California: Farmer Fined, Loses Land

The Allegation

A farmer in California, to avoid jail, reached agreement with the U.S. Fish and Wildlife Service to pay a \$5,000 fine, surrender 60 acres of his 160-acre farm and then ordered by the court to sell the remaining 100 acres. Why? He had plowed his field and there on his property was apparently some sort of lizard that the Service had deemed threatened or endangered.

The Response

This case involved an agribusiness concern, Tule Vista Farms and the incident in question occurred in 1989. It was not adjudicated until 1994. The Tule Vista Farms investigation was initiated jointly by the California Department of Fish and Game and the U.S. Fish and Wildlife Service when a state biologist noticed that 160 acres of endangered species habitat had been destroyed by disking. The subsequent investigation and charges eventually resulted in a plea agreement, whereby the Tule

Vista Farms agreed to deed the entire 160-acre parcel to the Service, with 60 acres representing land of value equivalent to compensation, mitigation and fines in excess of \$93,000. The Service purchased the remaining 99.35 acres with money provided by The Nature Conservancy and the acreage then became part of the Pixley National Wildlife Refuge. There was no court order to sell the remaining acreage; surrender of the entire parcel for fines levied and for acquisition was the result of a plea agreement.

Uncle Sam and 'Takings' Claims

The Allegation

The U.S. government is facing well over \$1 billion in takings claims. In California alone, property owners who can afford legal costs are winning about 50 percent of their cases and a report by the Congressional Research Service says property owners won regulatory takings cases before the courts in 1990 more often than not.

The Response

The \$1 billion figure represented the total amount plaintiffs were *seeking* in all pending cases alleging takings by the United States, whether or not the claims involve land regulation and regardless of the likelihood that a court would find a taking or the amount a court would actually award if it did find a taking. According to the Congressional Research Service, in 1993 the largest single source of decisions addressing takings claims against the United States was federal involvement with failing financial institutions; only a third of 1993 decisions involved land regulation. For 1992 and 1993, the Congressional Research Service reports that the government won 62 of 67 takings cases decided. In 1991, the government won 18 of 23 decided cases, and in 1990, 8 of 14. Only a handful of takings claims based on endangered species protections have been filed before the Court of Federal Claims. The United States has never lost a takings case under the Endangered Species Act.

Kansas: Neosho Madtom Catfish Shuts Down Business

The Allegation

In Kansas, the Shepard family had spent over 100 years, or three generations, scooping gravel near the Neosho River. Regulators went mad about the madtom catfish. They shut down the Shepards because the madtom inhabited the Neosho River and they thought the fish might be threatened, so the Shepards' gravel scooping days were over.

The Response

The State of Kansas listed the Neosho Madtom catfish as threatened, and also listed critical habitat for the species, under the Kansas Endangered Species Act, in 1978. The State of Kansas subsequently halted gravel scooping operations until state and federal biologists could determine what, precisely, is needed to recover the fish, which inhabits gravel areas in streams where it spawns and feeds. Alternate sites continued to be available to be worked by private operators for gravel recovery. The U.S. Army Corps of Engineers now has jurisdiction over gravel removal activities in the Neosho River and the State of Kansas has since lifted its gravel removal moratorium. Mr. Shepard and other gravel operators have applied for the necessary permit from the Corps of Engineers. The Corps will consult with the U.S. Fish and Wildlife Service as required under the Federal Endangered Species Act. The Service listed the Neosho Madtom catfish as threatened in 1990.

California: Home Destroyed By Federal Regulators

The Allegation

When Michael Rowe, of Winchester, California, saved enough money to add an extension to his 1-bedroom home on his 20-acre ranch, he found he was in a Stephens' kangaroo rat study area. He could have hired a biologist for \$5,000—but if he found a single rat, the addition still would be illegal. If no rats were found, he then would have to pay the government \$40,000 for a rat reserve elsewhere. In essence, the home was destroyed by federal regulators before it left the drawing board.

The Response

Stephens' kangaroo rat study areas were areas established within part of a short-term Habitat Conservation Plan (HCP) established by the Riverside County Habitat Conservation Planning Agency; the county agreed not to grant grading permits within study areas, unless a biologist demonstrated that no Stephens' kangaroo rats inhabited the area. In the case of Mr. Rowe's property, the cost of hiring a biologist would not have cost \$5,000, but \$500; a U.S. Fish and Wildlife Service agent offered to conduct the study for free, but Mr. Rowe declined the offer. The mitigation fee, for the Stephens' kangaroo rat reserve, was established in an agreement under the HCP. The fee—\$1,000 (not \$40,000)—goes to a reserve acquisition fund. Mr. Rowe's home, which is still occupied, was not destroyed.

California: The Fly and the Hospital

The Allegation

Construction of a \$600 million hospital in Southern California was halted by eight flies. The hospital had to dedicate 40 percent of the site to permanent fly habitat on the hospital grounds to proceed with the project.

The Response

Hospital construction, in Colton, California, was never halted. An agreement was reached with the developer regarding the Delhi sands flower-loving fly before construction began. The developer agreed to set aside 10.27 acres as a reserve for the species. The hospital site is 76 acres in size, and the habitat constitutes 13.5 percent of the total acreage. Construction remains underway. (The Delhi sands flower-loving fly, in a family different from that of the common housefly, is orange-brown in color, approximately an inch in length and has dark brown oval spots on the upper abdomen. It is found in five locations in southern California and prefers fine, sandy soils. It is an important pollinator of flowers, and its movement in flight is similar to that of the hummingbird).

Washington: One Owl Gets Your Land

The Allegation

The Constitutional interpretation right now is that if an owl flies and lands on your land, that owl gets all of your land and you are not compensated.

The Response

The U.S. Fish and Wildlife Service does not, and cannot, take property from a landowner because an owl lands there.

Texas: Species Halts Logging

The Allegation

A \$100,000 logging operation north of Houston was halted due to an abandoned bald eagle's nest.

The Response

An active eagle nest was discovered amid timber that was to be logged on land north of Houston, worth approximately \$100,000. Upon inspection, U.S. Fish and Wildlife Service biologists recommended—but did not order—that the owner of the logging operation set aside a percentage of the stand. The owner complied voluntarily and proceeded to log the remaining stand of timber. The Service has pledged to revisit the logging operation each year to help the owner determine what, if any, further logging may be implemented. (Bald eagles and their nests, eggs and young are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act, as well as the Endangered Species Act).

Arizona: The Flooded Road

The Allegation

A road in Greenlee County, Arizona, was flooded in November 1994. When the county tried to repair the dirt road, the U.S. Fish and Wildlife Service threatened a daily fine of \$20,000 if work continued.

The Response

The dirt road, which crosses a stream bed in several locations without benefit of bridges, was washed away in at least one location. When the Arizona governor declared an emergency, the U.S. Fish and Wildlife Service immediately conducted an emergency consultation and advised Greenlee County authorities to proceed with necessary repairs, requesting only that workmen spend as little time as possible in the stream bed. The road was repaired. The U.S. Fish and Wildlife Service made no threat of a \$20,000-a-day fine.

Tennessee: Columbia Dam

The Allegation

The Tennessee Valley Authority (TVA) began construction of a 12,600-acre dam in 1973. By 1983, the TVA had spent \$84 million but was forced to halt construction because of a listed mussel and plant species. The dam is not complete and TVA has no plans to finish it.

The Response

The construction of Columbia Dam, begun in 1973, was halted in 1983 when it became apparent that the reservoir could jeopardize the existence of two endangered freshwater mussel species. Since 1983, two additional endangered mussels and one endangered plant have been located in the project area. When the project was stopped, TVA had spent \$84 million on the dam, finishing 90 percent of the concrete portion and 60 percent of the earth and rockfill portion. Conservation measures were agreed to by the U.S. Fish and Wildlife Service that would have made completion of the dam possible, but TVA eventually elected to abandon the project altogether. However, the Service continues to work with TVA to explore alternate reservoir sites. TVA anticipates finishing an Environmental Impact Statement in the Fall of 1995 on one location that would seem to satisfy all the water requirements and have no adverse impact on endangered or threatened species.

The Squawfish

The Allegation

People are paid to catch squawfish in the Columbia River while at the same time, \$150 million is being spent to recover the species in the Colorado River.

The Response

The squawfish in the Columbia and Colorado Rivers are distinctly different species, the northern squawfish (*Ptychocheilus oregonensis*) being a resident of the Columbia and living in clear water and averaging 13 pounds, and the Colorado squawfish (*Ptychocheilus lucius*) inhabiting the Colorado and living in warm, turbid water and averaging 70 pounds. The predator removal program on the Columbia is an outgrowth of studies in the 1980s, which found that 80 percent of the known juvenile salmon predation was attributable to the northern squawfish. Since 1990, nearly 600,000 squawfish have been removed from the Lower Columbia and Snake Rivers, which lowered the predation rate on juvenile salmon 31 percent by 1994. It is believed that the predation rate may be reduced by 50 percent or more within 10 years. The program, considered highly successful and now an integral part of the salmon management efforts in the Columbia Basin, rewards all sport fishermen for northern squawfish over 11 inches in length. They are paid \$3 per fish for the first 100, \$4 for the next 300, and \$5 per fish over 400. The Bonneville Power Administration funds the program, which is administered by the Pacific States Marine Fisheries Commission in cooperation with the Washington and Oregon Departments of Fish and Wildlife. BPA has provided \$5.4 million annually since 1993 (\$8 million a year from 1990 through 1992). The program has been approved under the endangered species program of the National Marine Fisheries Service to protect depleted salmon stocks. The Colorado squawfish recovery plan, approved August 6, 1991, identifies \$3.2 million for 1992-1997 and a total of \$53 million to recover four fishes (Colorado squawfish, bonytail chub, humpback chub and the razorback sucker) in the Colorado River system.

Texas: The Fountain Darter and the Military

The Allegation

Restrictions under the Endangered Species Act for the fountain darter are negatively affecting military installations in Texas.

The Response

The fountain darter, a small fish, inhabits surface waters dependent upon the Edwards Aquifer for their instream flows. Several military bases in the San Antonio area have relied upon Edwards Aquifer water for years. The military bases' withdrawal amount is roughly 3 percent of the total withdrawn from the aquifer. Recently, the installations have been voluntarily incorporating water conservation measures and seeking alternate water supplies due to general concerns that overall aquifer withdrawal levels have been greater than recharge levels. The U.S. Fish and Wildlife Service has encouraged the military installations to evaluate what effects their water withdrawal may have on federally-listed species dependent upon the Edwards Aquifer, including the fountain darter. The military has consulted with the Service on several new and amended missions and none have been stopped. The Service continues to encourage the military to examine potential base-wide effects to federally-listed species and to review means by which any identified effects can be minimized. Because of the proactive approach the military is using, the Service anticipates that military water needs can continue to be met without negatively impacting the resources of the Edwards Aquifer.

Texas: The Dream House

The Allegation

The Wall Street Journal described the case of Marj and Roger Kreuger, who spent \$53,000 on a lot for their dream house in Texas Hill Country. But they and other owners were barred from building because the endangered golden-cheeked warbler was found in the canyons adjacent to their land.

The Response

The Kreugers, and others, purchased lots in a subdivision near Austin on land that was golden-cheeked warbler habitat. Landowners like the Kreugers, who qualify for the streamlined Habitat Conservation Plan process recently instituted by Secretary Babbitt, can receive a permit within 45 to 60 days from the time of application. Should they elect to begin construction, they must then pay a \$1,500 mitigation fee, which goes to a fund used to manage warbler habitat. At least 17 such landowners have applied under the program and are expected to receive permits soon. There is no record of the Kreuger family filing an application.



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